

ModelArts

API Reference

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1 Before You Start

1.1 Overview

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

1.2 API Calling

ModelArts supports Representational State Transfer (REST) APIs, allowing you to call APIs using HTTPS. For details about API calling, see [Calling APIs](#).

In addition, ModelArts provides software development kits (SDKs) of multiple programming languages for you to use. For details about how to use the SDKs, see the [ModelArts SDK Reference](#).

1.3 Endpoint

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 ModelArts resources you can create is determined by your quota. For details about the quota, see [Quotas](#).
- For more constraints, see API description.

1.5 Basic Concepts

- Account
An account is created upon successful registration with the cloud platform. 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 directly to perform routine management. For security purposes, create IAM users and grant them permissions for routine management.

- IAM user

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

An IAM user can view the account ID and user ID on the [My Credentials](#) page of the console. The account name, username, and password will be required for API authentication.

- Region

A region is a physical location where a cloud service is deployed. Availability zones (AZ) in the same region can communicate with each other over an intranet but AZs in different regions cannot communicate with each other. By creating cloud resources in different regions, you can design applications to better meet customer requirements and comply with local laws and regulations.

- AZ

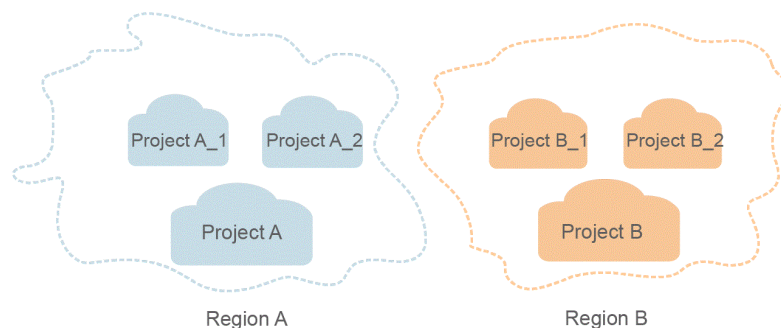
An AZ contains one or more physical data centers. It has independent cooling, fire extinguishing, moisture-proof, and electricity facilities. Within an AZ, computing, network, storage, and other resources are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to allow users to build 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. For more refined access control, create subprojects under a project and purchase resources in the subprojects. Users can then be assigned permissions to access only specific resources in the subprojects.

An IAM user can view the project ID on the [My Credentials](#) page.

Figure 1-1 Project isolation model



2 API Overview

All ModelArts APIs are proprietary.

You can use these APIs to manage development environments, training jobs, AI applications, and services.

DevEnviron APIs

Table 2-1 Development environment

Type	API	Description
Managing DevEnviron Instances	Obtaining Notebook Instances	Obtain the list of notebook instances meeting search criteria
	Creating a Notebook Instance	Create a notebook instance based on parameters such as the instance flavor, AI engine, and storage.
	Obtaining Details About a Notebook Instance	Obtain details about a notebook instance.
	Updating a Notebook Instance	Modify a notebook instance.
	Deleting a Notebook Instance	Delete the container and all storage resources of a notebook instance.
	Saving a Running Instance as a Container Image	Save the running instance as a container image. In the saved image, the installed dependency package (pip package) is retained. In VS Code remote development, the plug-ins installed on the server are retained.
	Obtaining Flavors Available for a Notebook Instance	Obtain available flavors.

Type	API	Description
	Obtaining Flavors Available for a Notebook Instance	Obtain the flavors available for a notebook instance.
	Obtaining the Available Duration of a Running Notebook Instance	Obtain the available duration of a running notebook instance.
	Prolonging a Notebook Instance	Prolong the available duration of a running notebook instance.
	Starting a Notebook Instance	Start a notebook instance.
	Stopping a Notebook Instance	Stop a notebook instance.
Dynamically Mounting OBS	Obtaining the Notebook Instances with OBS Storage Mounted	Obtain the notebook instances with OBS storage mounted.
	Dynamically Mounting OBS	Dynamically mount OBS to a notebook instance in running state.
	Obtaining Details About a Notebook Instance with OBS Storage Mounted	Obtain details about a notebook instance with OBS storage mounted.
	Dynamically Unmounting OBS	Dynamically unmount OBS from a notebook instance.
Image Management	Obtaining Supported Images	Obtain all images by page based on specified conditions.
	Registering a Custom Image	Register a custom image with ModelArts image management.
	Obtaining User Image Groups	Obtain the overview of user image information. Image names are used for aggregation.
	Obtaining Details About an Image	Obtain details about an image.
	Deleting an Image	Delete an image. For a private image, you can also delete its SWR image using parameters.

Training Management APIs

Table 2-2 Algorithm management APIs

API	Description
Creating an Algorithm	Create an algorithm.
Obtaining Algorithms	Obtain algorithms.
Obtaining Details About an Algorithm	Obtain a specified algorithm based on the algorithm ID.
Updating an Algorithm	Update an algorithm.
Deleting an Algorithm	Delete an algorithm.

Table 2-3 APIs for managing training jobs

API	Description
Creating a Training Job	Create a training job.
Obtaining Details About a Training Job	Obtain details about a training job.
Modifying the Description of a Training Job	Modify the description of a training job.
Deleting a Training Job	Delete a training job.
Terminate a Training Job	Terminate a training job. Only jobs in the creating, awaiting, or running state can be terminated.
Obtaining the Logs of a Specified Task in a Training Job (Preview)	Obtain the logs of a specified task in a training job (preview).
Obtaining the Logs of a Specified Task in a Training Job (OBS Link)	Obtain the logs of a specified task in a training job (OBS link). You can view all logs or download the logs.
Obtaining the Runtime Metrics of a Specified Task in a Training Job	Obtain the runtime metrics of a specified task in a training job.
Obtaining Training Jobs	Obtain the created training jobs by search criteria.

Table 2-4 APIs for resources and engine specifications

API	Description
Obtaining the General Specifications Supported by a Training Job	Obtain the general specifications supported by a training job.
Obtaining the Preset AI Frameworks Supported by a Training Job	Obtain the preset AI frameworks supported by a training job.

AI Application Management APIs

Table 2-5 APIs for managing AI applications

API	Description
Obtaining the Model Runtime	Obtain the AI engine and runtime of models.
Creating an AI Application	Create an AI application.
Obtaining an AI Application List	Obtain AI applications by different search criteria.
Obtaining Details About an AI Application	Obtain AI application details by ID.
Deleting an AI Application	Delete AI applications by ID. All versions of the AI application can be deleted.

App Authentication Management APIs

Table 2-6 App authentication management APIs

API	Description
Obtaining Apps	Obtain the basic information about APIG apps. You can obtain only the information about the apps created by yourself.
Creating an App	Create an API Gateway application (app for short).
Obtaining Details About an App	Obtain details about a specified app.
Deleting an App	Delete an app.
Adding an App Code	Create an app code for a specified API Gateway app.

API	Description
Resetting an App Code	Reset a specified app code of a specified API Gateway app.
Deleting an App Code	Delete a specified app code of a specified API Gateway app.
Resetting an App Secret	Reset a specified app secret of a specified API Gateway app.
Obtaining the List of APIs Bound to an App	Obtain the list of APIs bound to an app.
Registering an API and Authorizing the API to an App	Register an API and authorize the API to an app.
Deleting an API	Delete a specified API. Only users who have the permission to delete the service to which the API belongs can delete the API.
Authorizing an API to an App	Authorize a specified API to an app.
Updating API Authorization	Update the authorization relationship of an API.
Canceling the Authorization of an API to an App	Cancel the authorization of a specified API to an app.
Obtaining API Authorization Relationships	Obtain authorization relationships between specified APIs and apps.

Service Management APIs

Table 2-7 Service management APIs

API	Description
Deploying a Service	Deploy a service.
Obtaining Services	Obtain services.
Obtaining Service Details	Obtain service details by ID.
Updating Service Configurations	Update a model service.
Obtaining Service Monitoring	Obtain service monitoring information.

API	Description
Obtaining Service Update Logs	Obtain the update logs of a real-time service.
Obtaining Service Event Logs	Obtain service event logs, including service operation records, key actions during deployment, and deployment failure causes.
Deleting a Service	Delete a service.
Obtaining Supported Service Deployment Specifications	Obtain supported service deployment specifications.

Resource Management APIs

Table 2-8 Configuration management API

API	Description
Obtaining OS Configuration Parameters	Obtain the configuration parameters of the ModelArts OS service, such as the CIDR block and user resource quota.

Table 2-9 Plug-in template management API

API	Description
Obtaining a Plug-in Template	Obtain details of a specified plug-in template.

Table 2-10 Node management APIs

API	Description
Obtaining Nodes	Obtain the list of nodes in a resource pool.
Deleting Nodes in a Batch	Delete nodes in a specific resource pool. At least one node must be reserved in the resource pool.

Table 2-11 Event management API

API	Description
Obtaining Events	Obtain events.

Table 2-12 Network management APIs

API	Description
Creating Network Resources	Create network resources.
Obtaining Network Resources	Obtain a list of network resources.
Obtaining a Network Resource	Obtain details about a specified network resource.
Deleting a Network Resource	Delete a specified network resource.
Updating a Network Resource	Update a specified network resource.

Table 2-13 Resource indicator management API

API	Description
Obtaining the Real-Time Resource Usage	Obtain the real-time usage of all resource pools in the current project.

Table 2-14 Resource pool management APIs

API	Description
Creating a Resource Pool	Create a resource pool.
Obtaining Resource Pools	Obtain resource pools.
Obtaining a Resource Pool	Obtain details about a specified resource pool.
Deleting a Resource Pool	Delete a specified resource pool.
Updating a Resource Pool	Update a specified resource pool.
Monitoring a Resource Pool	Obtain the monitoring information of a resource pool.
Collecting Resource Pool Statistics	Obtain the statistics of a resource pool.

Table 2-15 Resource flavor management APIs

API	Description
Obtaining Resource Flavors	Obtain resource flavors.

Table 2-16 APIs for managing resource pool jobs

API	Description
Obtaining Dedicated Resource Pool Jobs	Obtain dedicated resource pool jobs.
Obtaining Statistics for Dedicated Resource Pool Jobs	Obtain statistics for dedicated resource pool jobs.

DevServer Management APIs

Table 2-17 DevServer management APIs

API	Description
Obtaining Details About all DevServer Instances of a User	Obtain details about all DevServer instances of a user.
Creating a DevServer Instance	Create a DevServer instance.
Obtaining DevServer Instance Details	Obtain DevServer instance details.
Deleting a DevServer Instance	Delete DevServer instances.
Synchronizing the Status of All DevServer Instances of a User in Real Time	Synchronize the status of all DevServer instances of a user in real time.
Starting a DevServer Instance	Start DevServer instances.
Stopping DevServer Instances	Stop DevServer instances.

Authorization Management APIs

Table 2-18 Authorization management APIs

API	Description
Viewing an Authorization List	View an authorization list.
Configuring Authorization	Configure ModelArts authorization. ModelArts functions such as training management, development environment, data management, and real-time services can be properly used only after required permissions are assigned.
Deleting Authorization	Delete the authorization of a specified user or all users.
Creating a ModelArts Agency	Create a ModelArts agency for dependent services such as OBS, SWR, and IEF.

3 Calling APIs

3.1 Making an API Request

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

Request URI

The format of a request URI is as follows:

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

Table 3-1 Request URI

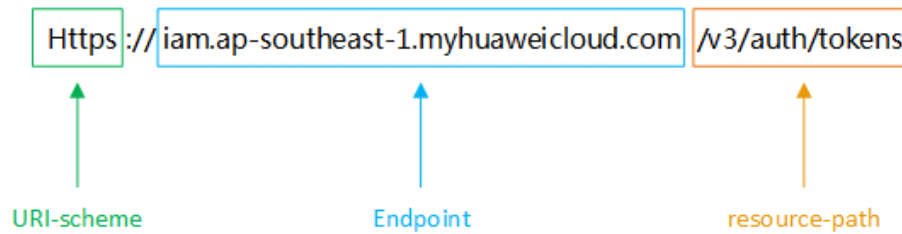
Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS.
Endpoint	Domain name or IP address of the server for the REST service endpoint. The endpoint varies depending on services in different regions. It can be obtained in Endpoint . For example, the endpoint of IAM in the CN-Hong Kong region is iam.ap-southeast-1.myhuaweicloud.com .
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the resource-path of the API used to obtain a user token is /v3/auth/tokens .
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 a token in the **CN-Hong Kong** region, obtain the endpoint of IAM (**iam.ap-southeast-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.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
```

Figure 3-1 Example URI



NOTE

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

Request Methods

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

Table 3-2 HTTP methods

Method	Description
GET	Requests the server to return specified resources.
PUT	Requests the server to update specified resources.
POST	Requests the server to add resources or perform special operations.
DELETE	Requests the server to delete specified resources, for example, an object.
HEAD	Same as GET except that the server must return only the response header.
PATCH	Requests the server to update partial content of a specified resource. If the resource does not exist, a new resource will be created.

For example, in the URI of the API for **obtaining a user token**, the request method is POST. The request is as follows:

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
```

Request Header

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

Table 3-3 describes the common request header fields to be added to the request.

Table 3-3 Common request header fields

Header	Description	Mandatory	Example
Content-type	Request body type or format. The default value is application/json .	Yes	application/json
Content-Length	Length of the request body. The unit is byte.	Mandatory for POST and PUT requests but must be left blank for GET requests	3495
X-Project-Id	Project ID. This parameter is used to obtain the token for each project.	No	e9993fc787d94b6c886c886cbaa340f9c0f4
X-Auth-Token	User token. It is a response to the API used to obtain a user token . This API is the only one that does not require authentication.	Mandatory for token-based authentication	None
X-Sdk-Date	Time when the request is sent. The time is in <i>YYYYMMDD'T'HHMMSS'Z'</i> format. The value is the current Greenwich Mean Time (GMT) time of the system.	Mandatory for AK/SK-based authentication, optional for PKI token-based authentication	20190307T101459Z

Header	Description	Mandatory	Example
Authorization	<p>Authentication information.</p> <p>The value is obtained from the request signature result and is required when the AK/SK are used to encrypt the signature.</p> <p>Type: string Default value: none</p>	Mandatory for AK/SK-based authentication	<p>SDK-HMAC-SHA256 Credential=ZIRRKMT WPTQFQI1WKNKB/ 20150907//ec2/ sdk_request, SignedHeaders=content-type;host;x-sdk-date, Signature=55741b610f3c9fa3ae40b5a8021ebf7ebc2a28a603fc62d25cb3bfe6608e1994</p>
Host	<p>Information about the requested server. The value can be obtained from the URL of the service API.</p> <p>This value is <i>host name[:port number]</i>.</p> <p>If the port number is not specified, the default port is used. The default port number for https is 443.</p>	Mandatory for AK/SK-based authentication	<p>code.test.com or code.test.com:443</p>

 **NOTE**

In addition to supporting authentication using tokens, APIs support authentication using AK/SK, which uses SDK to sign a request. During the signature, the **Authorization** (signature authentication) and **X-Sdk-Date** (time when a request is sent) headers are automatically added to the request. For details about AK/SK authentication, see [API Request Signing Guide](#).

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.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json
```

Request Body

The body of a request is often sent in a structured format as specified in the Content-Type header field. The request body transfers content except the request header. If the request body contains Chinese characters, these characters must be encoded in UTF-8.

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

If an API is used to **obtain a user token**, the request parameters and parameter description can be obtained from the API request. The following provides an

example request with a body included. Replace *user_name*, *domain_name*, and *user_password* with the actual username, account name, and login password, respectively. **ap-southeast-1** is the project name. For details, see [Obtaining a Username](#), [Obtaining an Account Name and ID](#), and [Obtaining a Project Name](#).

NOTE

The **scope** parameter specifies where a token takes effect. In the example, the token takes effect only for the resources in a specified project. ModelArts uses a region-specific endpoint to call this API. Set **scope** to **project**. You can set **scope** to an account or a project under an account. For details, see [Obtaining a User Token](#).

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
Content-Type:application/json
{
  "auth": {
    "identity": {
      "methods": ["password"],
      "password": {
        "user": {
          "name": "Username",
          "password": "User password",
          "domain": {
            "name": "Domain name"
          }
        }
      }
    },
    "scope": {
      "project": {
        "name": "ap-southeast-1"
      }
    }
  }
}
```

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

3.2 Authentication

Requests for calling an API can be authenticated using either of the following methods: AK/SK-based authentication: Requests are authenticated by encrypting the request body using an AK/SK pair.

- Token-based authentication: Requests are authenticated using a token.
- AK/SK authentication: Requests are encrypted using the access key ID (AK) and secret access key (SK).

Token-based Authentication

NOTE

The validity period of a token is 24 hours. When using a token for authentication, cache it to prevent frequently calling the IAM API used to obtain a user token.

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

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

In **Making an API Request**, the process of calling the API used to obtain a user token is described.

```
{
  "auth": {
    "identity": {
      "methods": [
        "password"
      ],
      "password": {
        "user": {
          "name": "user_name",
          "password": "user_password",
          "domain": {
            "name": "domain_name"
          }
        }
      }
    },
    "scope": {
      "project": {
        "name": "project_name"
      }
    }
  }
}
```

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

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

AK/SK-based Authentication

NOTE

AK/SK-based authentication supports API requests with a body not larger than 12 MB. For API requests with a larger body, token-based authentication is recommended.

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

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

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

NOTICE

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

3.3 Response

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

Status Code

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

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

Response Header

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

[Figure 1](#) shows the response header fields for the API used to [obtain a user token](#).

x-subject-token is the desired user token. This token can then be used to authenticate the calling of other APIs.

Figure 3-2 Header fields 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 → MIiYXQYJKoZIhvcNAQcCoIIYJCCGEoCAQExDTALBglghkgBZQMEAgEwgharBgkqhkiG9w0BBwGgghacBIIWmHsidG9rZW4iOnsiZXhwaXJlc19hdCI6IjwMTktMDItMTNUMC
fj3KIs6YgKnpVNRbW2eZ5eb78SZOkqjACgklqO1wi4JlGzrpd18LGXK5tdfdq4lqHCYb8P4NaYONVejcAgzIVeFYtLWT1GSO0zxKZmlQHJQ82HBqHdglZO9fuEbL5dMhdavj+33wEI
xHRCE9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXI1jipPEGA270g1FruooL6jqglFKNPQuFSOU8+uSsttVwRtnfsc+qT22Rkd5MCqFGQ8LcuUxC3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUbvpvGw-oPNFYxJECKnoH3HRozv0vN--n5d6Nbxg==
x-xss-protection → 1; mode=block;
```

Response Body

The body of a response is often returned in structured format as specified in the **Content-Type** header field. The response body transfers content except the response header.

The following is part of the response body for the API used to [obtain a user token](#).

```
{
  "token": {
    "expires_at": "2019-02-13T06:52:13.855000Z",
    "methods": [
      "password"
    ],
    "catalog": [
      {
        "endpoints": [
          {
            "region_id": "ap-southeast-1",
            .....

```

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

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

In the error response body, **error_code** is an error code, and **error_msg** provides information about the error. For more details, see [Error Codes](#).

4 Development Environment Management

4.1 Creating a Notebook Instance

Function

This API is used to create a notebook instance based on the specified flavor, AI engine image, and storage. You can access the instance through a web page or SSH client. Calling this API is an asynchronous operation. The job status can be obtained by calling the API for obtaining details about a development environment instance.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v1/{project_id}/notebooks

Table 4-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 4-2 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	Instance description. The value contains a maximum of 512 characters and cannot contain the following characters: &<>'"/.
duration	No	Long	Running duration starting from the current time. It is recommended that this attribute be configured in leaseReq. If this attribute has a value, the value of leaseReq is ignored and the automatic instance stop type is scheduled stop. Unit: ms.
endpoints	No	Array of EndpointsReq objects	This section describes how to configure the local IDE (such as PyCharm and VS Code) or SSH client to remotely access a notebook instance through SSH.
feature	No	String	Instance type. The default value is NOTEBOOK . Options: <ul style="list-style-type: none"> • DEFAULT: free CodeLab instance. You can create only one. • NOTEBOOK: billed instance.
flavor	Yes	String	Instance flavor. The following flavors are for reference only. Obtain the flavors displayed on the console in the target region. <ul style="list-style-type: none"> • modelarts.vm.cpu.2u: General-purpose Intel CPU flavor, ideal for rapid data exploration and experiments • modelarts.vm.cpu.8u: General computing-plus Intel CPU flavors, ideal for compute-intensive applications

Parameter	Mandatory	Type	Description
image_id	Yes	String	ID of the image used for creating development environment instances. The ID is in Universally Unique Identifier (UUID) format. For details, see Querying Supported Images .
name	Yes	String	Instance name, which contains a maximum of 128 characters, including letters, digits, hyphens (-), and underscores (_). Instance names can be duplicate.
pool_id	No	String	ID of a dedicated resource pool, for example, pool41664192 . This parameter is mandatory if a dedicated resource pool needs to be specified for creating an instance.
volume	Yes	VolumeReq object	Storage volume.
workspace_id	No	String	Workspace ID. If no workspaces are available, the default value is 0 .
hooks	No	CustomHooks object	Customized startup script hook configuration.
lease	No	LeaseReq object	Instance lease configuration.

Table 4-3 EndpointsReq

Parameter	Mandatory	Type	Description
allowed_access_ips	No	Array of strings	Public IP addresses that can remotely access the notebook instance. A maximum of five public IP addresses are supported.

Parameter	Mandatory	Type	Description
dev_service	No	String	Supported service. Options: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access the notebook instance through SSH.
ssh_keys	No	Array of strings	Name of the SSH key pair, which can be created and viewed on the Key Pair page of the Elastic Cloud Server (ECS) console.

Table 4-4 VolumeReq

Parameter	Mandatory	Type	Description
capacity	No	Integer	Storage capacity. The default value is 5 GB for EVS. The maximum value is 4096 GB.
category	Yes	String	Supported storage types. For details about the differences between the storage types, see Selecting Storage in DevEnviron . Options: <ul style="list-style-type: none"> • SFS: Scalable File Service • EVS
ownership	Yes	String	Owner to which the resource belongs. Enums: <ul style="list-style-type: none"> • MANAGED: Resources are managed by the service. • DEDICATED: Resources are managed by the user account. This mode is supported only when the instance category is EFS.

Parameter	Mandatory	Type	Description
uri	No	String	Disk URI of the EFS. This parameter is mandatory only when the instance category is EFS and the ownership is DEDICATED . Log in to the SFS console. In the file system list, click the file system name to go to the file system details page. The shared path is the value of this parameter.
id	No	String	Disk ID of the EFS. This parameter is mandatory only when the instance category is EFS and the ownership is DEDICATED . This parameter is mandatory. To obtain the parameter value, log in to the SFS console. In the file system list, click the file system name to go to the file system details page. ID is the value of this parameter.

Table 4-5 CustomHooks

Parameter	Mandatory	Type	Description
container_hooks	No	ContainerHooks object	Container-related hook configuration.

Table 4-6 ContainerHooks

Parameter	Mandatory	Type	Description
post_start	No	Config object	Configure the script after the service is started.
pre_start	No	Config object	Configure the script before starting the service.

Table 4-7 Config

Parameter	Mandatory	Type	Description
script	No	String	User-defined script content (Base64 encoding) or absolute script path.
type	No	String	Script type. The options are as follows: <ul style="list-style-type: none"> The script content (Base64 encoding) must be specified in COMMAND script. Default value of SCRIPT. The script path must be specified in the script.

Table 4-8 LeaseReq

Parameter	Mandatory	Type	Description
duration	No	Long	Indicates the running duration starting from the current time. After the running duration expires, the system automatically stops. Unit: ms.
type	No	String	Automatic stop type. The default value is timing.

Response Parameters

Status code: 200

Table 4-9 Response body parameters

Parameter	Type	Description
action_progress	Array of JobProgress objects	Instance initialization progress.
description	String	Instance description
endpoints	Array of EndpointsRes objects	This section describes how to configure the local IDE (such as PyCharm and VS Code) or SSH client to remotely access a notebook instance through SSH.
fail_reason	String	Instance failure cause

Parameter	Type	Description
flavor	String	Instance flavor
id	String	Instance ID.
image	Image object	Instance image
lease	Lease object	Countdown to automatic instance stop.
name	String	Instance name
pool	Pool object	Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.
status	String	Instance status. Options: <ul style="list-style-type: none"> • INIT: The instance is being initialized. • CREATING: The instance is being created. • STARTING: The instance is starting. • STOPPING: The instance is being stopped. • DELETING: The instance is being deleted. • RUNNING: The instance is running. • STOPPED: The instance has been stopped. • SNAPSHOTTING: The image of the instance is being saved. • CREATE_FAILED: Creating the instance failed. • START_FAILED: Starting the instance failed. • DELETE_FAILED: Deleting the instance failed. • ERROR: An error occurred. • DELETED: The instance has been deleted. • FROZEN: The instance is frozen.
token	String	Token information used for notebook authentication.
url	String	URL for accessing the notebook instance
volume	VolumeRes object	Storage volume
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .
feature	String	Instance type. Options: <ul style="list-style-type: none"> • DEFAULT: free CodeLab instance. You can create only one. • NOTEBOOK: billed instance.

Table 4-10 JobProgress

Parameter	Type	Description
notebook_id	String	Instance ID.
status	String	Job status in a specified step. Enums: <ul style="list-style-type: none"> ● WAITING: The job is awaiting. ● PROCESSING: The job is being processed. ● FAILED: The job failed. ● COMPLETED: The job is complete.
step	Integer	Job step. Options: <ul style="list-style-type: none"> ● 1: Prepare storage. ● 2: Prepare compute resources. ● 3: Configure the network. ● 4: Initialize the instance.
step_description	String	Description of a step in a job.

Table 4-11 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelist of public IP addresses that are allowed to access the notebook instance through SSH. By default, all public IP addresses can access the notebook instance. If this parameter is specified, only the clients with the specified IP addresses can access the notebook instance.
dev_service	String	Supported service. Options: <ul style="list-style-type: none"> ● NOTEBOOK: You can access notebook instances using HTTPS. ● SSH: You can remotely access the notebook instance through SSH.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

Parameter	Type	Description
service	String	Supported service. The options are: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH.
uri	String	Private IP address of the instance

Table 4-12 Image

Parameter	Type	Description
arch	String	Processor architecture supported by the image. Enums: <ul style="list-style-type: none"> • X86_64: x86 architecture • AARCH64: Arm architecture
create_at	Long	Specifies the time (UTC ms) when the image is created.
description	String	Image description with a maximum of 512 characters
dev_services	Array of strings	Services supported by the image. Enums: <ul style="list-style-type: none"> • NOTEBOOK: You can access a notebook instance using HTTPS. • SSH: You can remotely access a notebook instance from a local IDE through SSH.
id	String	ID of the image used for creating development environment instances. The ID is in Universally Unique Identifier (UUID) format. For details, see Querying Supported Images .
name	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)
namespace	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.
origin	String	Image source, which defaults to CUSTOMIZE . This parameter is optional. Enums: <ul style="list-style-type: none"> • CUSTOMIZE: custom image • IMAGE_SAVE: image saved using a development environment instance

Parameter	Type	Description
resource_categories	Array of strings	Flavors supported by the image. Enums: <ul style="list-style-type: none"> • CPU • GPU • ASCEND
service_type	String	Supported image types. Options: <ul style="list-style-type: none"> • COMMON: common image • INFERENCE: image used for inference • TRAIN: image used for training • DEV: image used for development and debugging • UNKNOWN: image whose supported services are not specified
size	Long	Specifies the image size, in KB.
status	String	Image status. Options: <ul style="list-style-type: none"> • INIT: The image is being initialized. • CREATING: The image is being saved. In this case, the notebook instance is unavailable. • CREATE_FAILED: Saving the image failed. • ERROR: An error occurs. • DELETED: The image has been deleted. • ACTIVE: The image has been saved, which you can view on the SWR console and use to create notebook instances.
status_message	String	Build information during image saving
support_resource_categories	Array of strings	Flavors supported by the image. Options: <ul style="list-style-type: none"> • CPU • GPU • ASCEND
swr_path	String	SWR image address
tag	String	Image tag
type	String	Image type. Options: <ul style="list-style-type: none"> • BUILD_IN: built-in system image • DEDICATED: private image
update_at	Long	Specifies the time (UTC ms) when the image was last updated.

Parameter	Type	Description
visibility	String	Image visibility. Enums: <ul style="list-style-type: none"> ● PRIVATE: private image ● PUBLIC: All users can perform read-only operations based on the image ID.
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .

Table 4-13 Lease

Parameter	Type	Description
create_at	Long	Time (UTC) when the instance is created, accurate to millisecond.
duration	Long	Instance running duration, which is calculated based on the instance creation time. If the instance creation time plus the duration is greater than the current time, the system automatically stops the instance.
enable	Boolean	Whether to enable auto stop of the instance.
type	String	Indicates the automatic stop type.
update_at	Long	Time (UTC) when the instance is last updated (excluding the keepalive heartbeat time), accurate to millisecond.

Table 4-14 Pool

Parameter	Type	Description
id	String	ID of a dedicated resource pool
name	String	Name of a dedicated resource pool

Table 4-15 VolumeRes

Parameter	Type	Description
capacity	Integer	Storage capacity. The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4096 GB.

Parameter	Type	Description
category	String	Supported storage types. For details about the differences between the storage types, see Selecting Storage in DevEnviron . Options: <ul style="list-style-type: none"> • SFS: Scalable File Service • EVS
mount_path	String	Directory of the notebook instance to which OBS storage is mounted. Currently, the directory is <code>/home/ma-user/work/</code> .
ownership	String	Owner to which the resource belongs. Enums: <ul style="list-style-type: none"> • MANAGED: Resources are managed by the service. • DEDICATED: Resources are managed by the user account. This mode is supported only when the instance category is EFS.
status	String	EVS disk capacity expansion status, which is RESIZING during capacity expansion and does not affect the instance.

Example Requests

The following is an example of how to create a notebook instance whose flavor is **modelarts.vm.cpu.2u**, storage type is **evs**, ownership is **MANAGED**, and storage capacity is 50 GB.

```
{
  "name": "notebooks_test",
  "feature": "NOTEBOOK",
  "workspace_id": "0",
  "description": "api-test",
  "flavor": "modelarts.vm.cpu.2u",
  "image_id": "e1a07296-22a8-4f05-8bc8-e936c8e54090",
  "volume": {
    "category": "evs",
    "ownership": "managed",
    "capacity": 50
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "description": "api-test",
  "feature": "NOTEBOOK",
  "flavor": "modelarts.vm.cpu.2u",
  "id": "f9937afa-4451-42db-a76b-72d624749f66",
  "image": {
    "description": "description",
    "id": "e1a07296-22a8-4f05-8bc8-e936c8e54090",
```



```
"name" : "notebook2.0-mul-kernel-cpu-cp36",  
"swr_path" : "swr.xxxx.com/atelier/notebook2.0-mul-kernel-cpu-cp36:3.3.2-release_v1",  
"tag" : "3.3.2-release_v1",  
"type" : "BUILD_IN"  
},  
"lease" : {  
  "create_at" : 1638841744515,  
  "duration" : 3600000,  
  "enable" : true,  
  "type" : "TIMING",  
  "update_at" : 1638841744515  
},  
"name" : "notebooks_test",  
"status" : "CREATING",  
"token" : "3eff13f2-3d70-5456-6dc7-e3f99f562022",  
"workspace_id" : "0"  
}
```

Status Codes

Status Code	Description
200	OK
201	Created
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.2 Querying Notebook Instances

Function

This API is used to query notebook instances based on specified search criteria.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/notebooks

Table 4-16 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 4-17 Query Parameters

Parameter	Mandatory	Type	Description
feature	No	String	Instance type. The default value is NOTEBOOK . Enums: <ul style="list-style-type: none"> • DEFAULT: free CodeLab instance. You can create only one. • NOTEBOOK: billed instance.
limit	No	Integer	Number of records on each page. The default value is 10 .
name	No	String	Instance name, which contains a maximum of 128 characters and can consist of uppercase and lowercase letters, digits, hyphens (-), and underscores (_). Fuzzy match is supported.
pool_id	No	String	ID of a dedicated resource pool.
offset	No	Integer	Start offset of the records on each page. The default value is 0 .
owner	No	String	User ID of the instance, which contains 32 characters, including lowercase letters and digits. This parameter is valid only when the account is a big account or has the admin permission. Generally, the value is the ID of the current login user.
sort_dir	No	String	Sorting mode. The options are ASC (ascending order) and DESC (descending order). The default value is DESC .

Parameter	Mandatory	Type	Description
sort_key	No	String	Sorting fields. Separate multiple fields with commas (,).
status	No	String	Instance status. Options: <ul style="list-style-type: none"> • INIT: The instance is being initialized. • CREATING: The instance is being created. • STARTING: The instance is starting. • STOPPING: The instance is being stopped. • DELETING: The instance is being deleted. • RUNNING: The instance is running. • STOPPED: The instance has been stopped. • SNAPSHOTTING: The image of the instance is being saved. • CREATE_FAILED: Creating the instance failed. • START_FAILED: Starting the instance failed. • DELETE_FAILED: Deleting the instance failed. • ERROR: An error occurred. • DELETED: The instance has been deleted. • FROZEN: The instance is frozen.
workspaceId	No	String	Workspace ID. If no workspaces are available, the default value is 0 .

Request Parameters

None

Response Parameters

Status code: 200

Table 4-18 Response body parameters

Parameter	Type	Description
current	Integer	Current page
data	Array of NotebookResp objects	Data
pages	Integer	Total pages
size	Integer	Number of records on each page
total	Long	Total records

Table 4-19 NotebookResp

Parameter	Type	Description
action_progress	Array of JobProgress objects	Instance initialization progress.
description	String	Instance description
endpoints	Array of EndpointsRes objects	This section describes how to configure the local IDE (such as PyCharm and VS Code) or SSH client to remotely access a notebook instance through SSH.
fail_reason	String	Instance failure cause
flavor	String	Instance flavor
id	String	Instance ID.
image	Image object	Instance image
lease	Lease object	Countdown to automatic instance stop.
name	String	Instance name
pool	Pool object	Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.

Parameter	Type	Description
status	String	Instance status. Options: <ul style="list-style-type: none"> • INIT: The instance is being initialized. • CREATING: The instance is being created. • STARTING: The instance is starting. • STOPPING: The instance is being stopped. • DELETING: The instance is being deleted. • RUNNING: The instance is running. • STOPPED: The instance has been stopped. • SNAPSHOTTING: The image of the instance is being saved. • CREATE_FAILED: Creating the instance failed. • START_FAILED: Starting the instance failed. • DELETE_FAILED: Deleting the instance failed. • ERROR: An error occurred. • DELETED: The instance has been deleted. • FROZEN: The instance is frozen.
token	String	Token information used for notebook authentication.
url	String	URL for accessing the notebook instance
volume	VolumeRes object	Storage volume
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .
feature	String	Instance type. Options: <ul style="list-style-type: none"> • DEFAULT: free CodeLab instance. You can create only one. • NOTEBOOK: billed instance.

Table 4-20 JobProgress

Parameter	Type	Description
notebook_id	String	Instance ID.

Parameter	Type	Description
status	String	Job status in a specified step. Enums: <ul style="list-style-type: none"> ● WAITING: The job is awaiting. ● PROCESSING: The job is being processed. ● FAILED: The job failed. ● COMPLETED: The job is complete.
step	Integer	Job step. Options: <ul style="list-style-type: none"> ● 1: Prepare storage. ● 2: Prepare compute resources. ● 3: Configure the network. ● 4: Initialize the instance.
step_description	String	Description of a step in a job.

Table 4-21 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelist of public IP addresses that are allowed to access the notebook instance through SSH. By default, all public IP addresses can access the notebook instance. If this parameter is specified, only the clients with the specified IP addresses can access the notebook instance.
dev_service	String	Supported service. Options: <ul style="list-style-type: none"> ● NOTEBOOK: You can access notebook instances using HTTPS. ● SSH: You can remotely access the notebook instance through SSH.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	Supported service. The options are: <ul style="list-style-type: none"> ● NOTEBOOK: You can access notebook instances using HTTPS. ● SSH: You can remotely access notebook instances through SSH.
uri	String	Private IP address of the instance

Table 4-22 Image

Parameter	Type	Description
arch	String	Processor architecture supported by the image. Enums: <ul style="list-style-type: none"> ● X86_64: x86 architecture ● AARCH64: Arm architecture
create_at	Long	Specifies the time (UTC ms) when the image is created.
description	String	Image description with a maximum of 512 characters
dev_services	Array of strings	Services supported by the image. Enums: <ul style="list-style-type: none"> ● NOTEBOOK: You can access a notebook instance using HTTPS. ● SSH: You can remotely access a notebook instance from a local IDE through SSH.
id	String	ID of the image used for creating development environment instances. The ID is in Universally Unique Identifier (UUID) format. For details, see Querying Supported Images .
name	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)
namespace	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.
origin	String	Image source, which defaults to CUSTOMIZE . This parameter is optional. Enums: <ul style="list-style-type: none"> ● CUSTOMIZE: custom image ● IMAGE_SAVE: image saved using a development environment instance
resource_categories	Array of strings	Flavors supported by the image. Enums: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND

Parameter	Type	Description
service_type	String	Supported image types. Options: <ul style="list-style-type: none"> ● COMMON: common image ● INFERENCE: image used for inference ● TRAIN: image used for training ● DEV: image used for development and debugging ● UNKNOWN: image whose supported services are not specified
size	Long	Specifies the image size, in KB.
status	String	Image status. Options: <ul style="list-style-type: none"> ● INIT: The image is being initialized. ● CREATING: The image is being saved. In this case, the notebook instance is unavailable. ● CREATE_FAILED: Saving the image failed. ● ERROR: An error occurs. ● DELETED: The image has been deleted. ● ACTIVE: The image has been saved, which you can view on the SWR console and use to create notebook instances.
status_message	String	Build information during image saving
support_resource_categories	Array of strings	Flavors supported by the image. Options: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND
swr_path	String	SWR image address
tag	String	Image tag
type	String	Image type. Options: <ul style="list-style-type: none"> ● BUILD_IN: built-in system image ● DEDICATED: private image
update_at	Long	Specifies the time (UTC ms) when the image was last updated.
visibility	String	Image visibility. Enums: <ul style="list-style-type: none"> ● PRIVATE: private image ● PUBLIC: All users can perform read-only operations based on the image ID.

Parameter	Type	Description
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .

Table 4-23 Lease

Parameter	Type	Description
create_at	Long	Time (UTC) when the instance is created, accurate to millisecond.
duration	Long	Instance running duration, which is calculated based on the instance creation time. If the instance creation time plus the duration is greater than the current time, the system automatically stops the instance.
enable	Boolean	Whether to enable auto stop of the instance.
type	String	Indicates the automatic stop type.
update_at	Long	Time (UTC) when the instance is last updated (excluding the keepalive heartbeat time), accurate to millisecond.

Table 4-24 Pool

Parameter	Type	Description
id	String	ID of a dedicated resource pool
name	String	Name of a dedicated resource pool

Table 4-25 VolumeRes

Parameter	Type	Description
capacity	Integer	Storage capacity. The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4096 GB.
category	String	Supported storage types. For details about the differences between the storage types, see Selecting Storage in DevEnviron . Options: <ul style="list-style-type: none"> • SFS: Scalable File Service • EVS

Parameter	Type	Description
mount_path	String	Directory of the notebook instance to which OBS storage is mounted. Currently, the directory is /home/ma-user/work/ .
ownership	String	Owner to which the resource belongs. Enums: <ul style="list-style-type: none"> ● MANAGED: Resources are managed by the service. ● DEDICATED: Resources are managed by the user account. This mode is supported only when the instance category is EFS.
status	String	EVS disk capacity expansion status, which is RESIZING during capacity expansion and does not affect the instance.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/notebooks
```

Example Responses

Status code: 200

OK

```
{
  "current" : 0,
  "data" : [ {
    "description" : "api-test",
    "feature" : "DEFAULT",
    "flavor" : "modelarts.vm.cpu.free",
    "id" : "f9937afa-ca78-45b6-bc12-7ecf42553c48",
    "image" : {
      "id" : "e1a07296-22a8-4f05-8bc8-e936c8e54090",
      "name" : "notebook2.0-mul-kernel-cpu-cp36",
      "swr_path" : "swr.xxxx.com/atelier/notebook2.0-mul-kernel-cpu-cp36:3.3.2-release_v1",
      "type" : "BUILD_IN"
    },
    "lease" : {
      "create_at" : 1638841805439,
      "duration" : 3600000,
      "enable" : true,
      "update_at" : 1638841805439
    },
    "name" : "notebook_5ee4bf0e",
    "status" : "CREATING",
    "token" : "58ba50c6-e8ff-245c-4840-49e51aa70737",
    "volume" : {
      "category" : "EVS",
      "ownership" : "MANAGED",
      "mount_path" : "/home/ma-user/work/",
      "capacity" : 50
    },
    "workspace_id" : "0"
  }, {
    "description" : "api-test",
    "feature" : "NOTEBOOK",
    "flavor" : "modelarts.vm.cpu.2u",
    "id" : "f9937afa-4451-42db-a76b-72d624749f66",
```

```

"image" : {
  "id" : "e1a07296-22a8-4f05-8bc8-e936c8e54090",
  "name" : "notebook2.0-mul-kernel-cpu-cp36",
  "swr_path" : "swr.xxxx.com/atelier/notebook2.0-mul-kernel-cpu-cp36:3.3.2-release_v1",
  "type" : "BUILD_IN"
},
"lease" : {
  "create_at" : 1638841744515,
  "duration" : 3600000,
  "enable" : true,
  "update_at" : 1638841744515
},
"name" : "notebooks_test",
"status" : "CREATING",
"token" : "3eff13f2-3d70-5456-6dc7-e3f99f562022",
"volume" : {
  "category" : "EVS",
  "ownership" : "MANAGED",
  "mount_path" : "/home/ma-user/work/",
  "capacity" : 50
},
"workspace_id" : "0"
}],
"pages" : 1,
"size" : 10,
"total" : 2
}

```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.3 Querying Details of a Notebook Instance

Function

This API is used to query details about a notebook instance, including its ID, name, flavor, image, status, and accessible URLs.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/notebooks/{id}

Table 4-26 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Notebook instance ID.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

Status code: 200

Table 4-27 Response body parameters

Parameter	Type	Description
action_progress	Array of JobProgress objects	Instance initialization progress.
description	String	Instance description
endpoints	Array of EndpointsRes objects	This section describes how to configure the local IDE (such as PyCharm and VS Code) or SSH client to remotely access a notebook instance through SSH.
fail_reason	String	Instance failure cause
flavor	String	Instance flavor
id	String	Instance ID.
image	Image object	Instance image
lease	Lease object	Countdown to automatic instance stop.
name	String	Instance name

Parameter	Type	Description
pool	Pool object	Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.
status	String	Instance status. Options: <ul style="list-style-type: none"> • INIT: The instance is being initialized. • CREATING: The instance is being created. • STARTING: The instance is starting. • STOPPING: The instance is being stopped. • DELETING: The instance is being deleted. • RUNNING: The instance is running. • STOPPED: The instance has been stopped. • SNAPSHOTTING: The image of the instance is being saved. • CREATE_FAILED: Creating the instance failed. • START_FAILED: Starting the instance failed. • DELETE_FAILED: Deleting the instance failed. • ERROR: An error occurred. • DELETED: The instance has been deleted. • FROZEN: The instance is frozen.
token	String	Token information used for notebook authentication.
url	String	URL for accessing the notebook instance
volume	VolumeRes object	Storage volume
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .
feature	String	Instance type. Options: <ul style="list-style-type: none"> • DEFAULT: free CodeLab instance. You can create only one. • NOTEBOOK: billed instance.

Table 4-28 JobProgress

Parameter	Type	Description
notebook_id	String	Instance ID.

Parameter	Type	Description
status	String	Job status in a specified step. Enums: <ul style="list-style-type: none"> ● WAITING: The job is awaiting. ● PROCESSING: The job is being processed. ● FAILED: The job failed. ● COMPLETED: The job is complete.
step	Integer	Job step. Options: <ul style="list-style-type: none"> ● 1: Prepare storage. ● 2: Prepare compute resources. ● 3: Configure the network. ● 4: Initialize the instance.
step_description	String	Description of a step in a job.

Table 4-29 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelist of public IP addresses that are allowed to access the notebook instance through SSH. By default, all public IP addresses can access the notebook instance. If this parameter is specified, only the clients with the specified IP addresses can access the notebook instance.
dev_service	String	Supported service. Options: <ul style="list-style-type: none"> ● NOTEBOOK: You can access notebook instances using HTTPS. ● SSH: You can remotely access the notebook instance through SSH.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	Supported service. The options are: <ul style="list-style-type: none"> ● NOTEBOOK: You can access notebook instances using HTTPS. ● SSH: You can remotely access notebook instances through SSH.
uri	String	Private IP address of the instance

Table 4-30 Image

Parameter	Type	Description
arch	String	Processor architecture supported by the image. Enums: <ul style="list-style-type: none"> ● X86_64: x86 architecture ● AARCH64: Arm architecture
create_at	Long	Specifies the time (UTC ms) when the image is created.
description	String	Image description with a maximum of 512 characters
dev_services	Array of strings	Services supported by the image. Enums: <ul style="list-style-type: none"> ● NOTEBOOK: You can access a notebook instance using HTTPS. ● SSH: You can remotely access a notebook instance from a local IDE through SSH.
id	String	ID of the image used for creating development environment instances. The ID is in Universally Unique Identifier (UUID) format. For details, see Querying Supported Images .
name	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)
namespace	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.
origin	String	Image source, which defaults to CUSTOMIZE . This parameter is optional. Enums: <ul style="list-style-type: none"> ● CUSTOMIZE: custom image ● IMAGE_SAVE: image saved using a development environment instance
resource_categories	Array of strings	Flavors supported by the image. Enums: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND

Parameter	Type	Description
service_type	String	Supported image types. Options: <ul style="list-style-type: none"> ● COMMON: common image ● INFERENCE: image used for inference ● TRAIN: image used for training ● DEV: image used for development and debugging ● UNKNOWN: image whose supported services are not specified
size	Long	Specifies the image size, in KB.
status	String	Image status. Options: <ul style="list-style-type: none"> ● INIT: The image is being initialized. ● CREATING: The image is being saved. In this case, the notebook instance is unavailable. ● CREATE_FAILED: Saving the image failed. ● ERROR: An error occurs. ● DELETED: The image has been deleted. ● ACTIVE: The image has been saved, which you can view on the SWR console and use to create notebook instances.
status_message	String	Build information during image saving
support_resource_categories	Array of strings	Flavors supported by the image. Options: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND
swr_path	String	SWR image address
tag	String	Image tag
type	String	Image type. Options: <ul style="list-style-type: none"> ● BUILD_IN: built-in system image ● DEDICATED: private image
update_at	Long	Specifies the time (UTC ms) when the image was last updated.
visibility	String	Image visibility. Enums: <ul style="list-style-type: none"> ● PRIVATE: private image ● PUBLIC: All users can perform read-only operations based on the image ID.

Parameter	Type	Description
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .

Table 4-31 Lease

Parameter	Type	Description
create_at	Long	Time (UTC) when the instance is created, accurate to millisecond.
duration	Long	Instance running duration, which is calculated based on the instance creation time. If the instance creation time plus the duration is greater than the current time, the system automatically stops the instance.
enable	Boolean	Whether to enable auto stop of the instance.
type	String	Indicates the automatic stop type.
update_at	Long	Time (UTC) when the instance is last updated (excluding the keepalive heartbeat time), accurate to millisecond.

Table 4-32 Pool

Parameter	Type	Description
id	String	ID of a dedicated resource pool
name	String	Name of a dedicated resource pool

Table 4-33 VolumeRes

Parameter	Type	Description
capacity	Integer	Storage capacity. The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4096 GB.
category	String	Supported storage types. For details about the differences between the storage types, see Selecting Storage in DevEnviron . Options: <ul style="list-style-type: none"> • SFS: Scalable File Service • EVS

Parameter	Type	Description
mount_path	String	Directory of the notebook instance to which OBS storage is mounted. Currently, the directory is /home/ma-user/work/ .
ownership	String	Owner to which the resource belongs. Enums: <ul style="list-style-type: none"> ● MANAGED: Resources are managed by the service. ● DEDICATED: Resources are managed by the user account. This mode is supported only when the instance category is EFS.
status	String	EVS disk capacity expansion status, which is RESIZING during capacity expansion and does not affect the instance.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/notebooks/{id}
```

Example Responses

Status code: 200

OK

```
{
  "description": "api-test",
  "feature": "NOTEBOOK",
  "flavor": "modelarts.vm.cpu.2u",
  "id": "f9937afa-631e-4a8f-a8f7-3b6c800585f0",
  "image": {
    "id": "e1a07296-22a8-4f05-8bc8-e936c8e54090",
    "name": "notebook2.0-mul-kernel-cpu-cp36",
    "swr_path": "swr.xxxx.com/atelier/notebook2.0-mul-kernel-cpu-cp36:3.3.1.B007_V2",
    "type": "BUILD_IN"
  },
  "lease": {
    "create_at": 1638778344300,
    "duration": 3600000,
    "enable": true,
    "update_at": 1638778344300
  },
  "name": "notebooks_test",
  "status": "CREATING",
  "token": "7b22482a-a4cb-4b46-e3b3-6a793a47967e",
  "url": "https://authoring-modelarts-xxxx.xxxx.com/f9937afa-631e-4a8f-a8f7-3b6c800585f0/lab",
  "workspace_id": "0"
}
```

Status Codes

Status Code	Description
200	OK

Status Code	Description
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.4 Updating a Notebook Instance

Function

This API is used to update a development environment instance, including the name, description, specifications, and image ID. This API can be used only when the notebook instance is stopped.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v1/{project_id}/notebooks/{id}

Table 4-34 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Notebook instance ID.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 4-35 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	Instance description. The value can contain a maximum of 512 characters and cannot contain the following special characters: &<>"/.
endpoints	No	Array of EndpointsReq objects	This section describes how to configure the local IDE (such as PyCharm and VS Code) or SSH client to remotely access a notebook instance through SSH.
flavor	No	String	Instance flavor. For details, see Querying Flavors Available for a Notebook Instance .
image_id	No	String	Image ID. For details, see Querying Supported Images .
name	No	String	Instance name that can be updated, which contains a maximum of 128 characters, including letters, digits, hyphens (-), and underscores (_).
storage_new_size	No	Integer	EVS instance capacity that can be expanded, in GB. The maximum value is 4,096 GB.
hooks	No	CustomHooks object	The instance startup script can be updated.

Table 4-36 EndpointsReq

Parameter	Mandatory	Type	Description
allowed_access_ips	No	Array of strings	Public IP addresses that can remotely access the notebook instance. A maximum of five public IP addresses are supported.

Parameter	Mandatory	Type	Description
dev_service	No	String	Supported service. Options: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access the notebook instance through SSH.
ssh_keys	No	Array of strings	Name of the SSH key pair, which can be created and viewed on the Key Pair page of the Elastic Cloud Server (ECS) console.

Table 4-37 CustomHooks

Parameter	Mandatory	Type	Description
container_hooks	No	ContainerHooks object	Container-related hook configuration.

Table 4-38 ContainerHooks

Parameter	Mandatory	Type	Description
post_start	No	Config object	Configure the script after the service is started.
pre_start	No	Config object	Configure the script before starting the service.

Table 4-39 Config

Parameter	Mandatory	Type	Description
script	No	String	User-defined script content (Base64 encoding) or absolute script path.

Parameter	Mandatory	Type	Description
type	No	String	Script type. The options are as follows: <ul style="list-style-type: none"> The script content (Base64 encoding) must be specified in COMMAND script. Default value of SCRIPT. The script path must be specified in the script.

Response Parameters

Status code: 200

Table 4-40 Response body parameters

Parameter	Type	Description
action_progress	Array of JobProgress objects	Instance initialization progress.
description	String	Instance description
endpoints	Array of EndpointsRes objects	This section describes how to configure the local IDE (such as PyCharm and VS Code) or SSH client to remotely access a notebook instance through SSH.
fail_reason	String	Instance failure cause
flavor	String	Instance flavor
id	String	Instance ID.
image	Image object	Instance image
lease	Lease object	Countdown to automatic instance stop.
name	String	Instance name
pool	Pool object	Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.

Parameter	Type	Description
status	String	Instance status. Options: <ul style="list-style-type: none"> • INIT: The instance is being initialized. • CREATING: The instance is being created. • STARTING: The instance is starting. • STOPPING: The instance is being stopped. • DELETING: The instance is being deleted. • RUNNING: The instance is running. • STOPPED: The instance has been stopped. • SNAPSHOTTING: The image of the instance is being saved. • CREATE_FAILED: Creating the instance failed. • START_FAILED: Starting the instance failed. • DELETE_FAILED: Deleting the instance failed. • ERROR: An error occurred. • DELETED: The instance has been deleted. • FROZEN: The instance is frozen.
token	String	Token information used for notebook authentication.
url	String	URL for accessing the notebook instance
volume	VolumeRes object	Storage volume
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .
feature	String	Instance type. Options: <ul style="list-style-type: none"> • DEFAULT: free CodeLab instance. You can create only one. • NOTEBOOK: billed instance.

Table 4-41 JobProgress

Parameter	Type	Description
notebook_id	String	Instance ID.

Parameter	Type	Description
status	String	Job status in a specified step. Enums: <ul style="list-style-type: none"> ● WAITING: The job is awaiting. ● PROCESSING: The job is being processed. ● FAILED: The job failed. ● COMPLETED: The job is complete.
step	Integer	Job step. Options: <ul style="list-style-type: none"> ● 1: Prepare storage. ● 2: Prepare compute resources. ● 3: Configure the network. ● 4: Initialize the instance.
step_description	String	Description of a step in a job.

Table 4-42 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelist of public IP addresses that are allowed to access the notebook instance through SSH. By default, all public IP addresses can access the notebook instance. If this parameter is specified, only the clients with the specified IP addresses can access the notebook instance.
dev_service	String	Supported service. Options: <ul style="list-style-type: none"> ● NOTEBOOK: You can access notebook instances using HTTPS. ● SSH: You can remotely access the notebook instance through SSH.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	Supported service. The options are: <ul style="list-style-type: none"> ● NOTEBOOK: You can access notebook instances using HTTPS. ● SSH: You can remotely access notebook instances through SSH.
uri	String	Private IP address of the instance

Table 4-43 Image

Parameter	Type	Description
arch	String	Processor architecture supported by the image. Enums: <ul style="list-style-type: none"> ● X86_64: x86 architecture ● AARCH64: Arm architecture
create_at	Long	Specifies the time (UTC ms) when the image is created.
description	String	Image description with a maximum of 512 characters
dev_services	Array of strings	Services supported by the image. Enums: <ul style="list-style-type: none"> ● NOTEBOOK: You can access a notebook instance using HTTPS. ● SSH: You can remotely access a notebook instance from a local IDE through SSH.
id	String	ID of the image used for creating development environment instances. The ID is in Universally Unique Identifier (UUID) format. For details, see Querying Supported Images .
name	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)
namespace	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.
origin	String	Image source, which defaults to CUSTOMIZE . This parameter is optional. Enums: <ul style="list-style-type: none"> ● CUSTOMIZE: custom image ● IMAGE_SAVE: image saved using a development environment instance
resource_categories	Array of strings	Flavors supported by the image. Enums: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND

Parameter	Type	Description
service_type	String	Supported image types. Options: <ul style="list-style-type: none"> ● COMMON: common image ● INFERENCE: image used for inference ● TRAIN: image used for training ● DEV: image used for development and debugging ● UNKNOWN: image whose supported services are not specified
size	Long	Specifies the image size, in KB.
status	String	Image status. Options: <ul style="list-style-type: none"> ● INIT: The image is being initialized. ● CREATING: The image is being saved. In this case, the notebook instance is unavailable. ● CREATE_FAILED: Saving the image failed. ● ERROR: An error occurs. ● DELETED: The image has been deleted. ● ACTIVE: The image has been saved, which you can view on the SWR console and use to create notebook instances.
status_message	String	Build information during image saving
support_resource_categories	Array of strings	Flavors supported by the image. Options: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND
swr_path	String	SWR image address
tag	String	Image tag
type	String	Image type. Options: <ul style="list-style-type: none"> ● BUILD_IN: built-in system image ● DEDICATED: private image
update_at	Long	Specifies the time (UTC ms) when the image was last updated.
visibility	String	Image visibility. Enums: <ul style="list-style-type: none"> ● PRIVATE: private image ● PUBLIC: All users can perform read-only operations based on the image ID.

Parameter	Type	Description
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .

Table 4-44 Lease

Parameter	Type	Description
create_at	Long	Time (UTC) when the instance is created, accurate to millisecond.
duration	Long	Instance running duration, which is calculated based on the instance creation time. If the instance creation time plus the duration is greater than the current time, the system automatically stops the instance.
enable	Boolean	Whether to enable auto stop of the instance.
type	String	Indicates the automatic stop type.
update_at	Long	Time (UTC) when the instance is last updated (excluding the keepalive heartbeat time), accurate to millisecond.

Table 4-45 Pool

Parameter	Type	Description
id	String	ID of a dedicated resource pool
name	String	Name of a dedicated resource pool

Table 4-46 VolumeRes

Parameter	Type	Description
capacity	Integer	Storage capacity. The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4096 GB.
category	String	Supported storage types. For details about the differences between the storage types, see Selecting Storage in DevEnviron . Options: <ul style="list-style-type: none"> • SFS: Scalable File Service • EVS

Parameter	Type	Description
mount_path	String	Directory of the notebook instance to which OBS storage is mounted. Currently, the directory is /home/ma-user/work/ .
ownership	String	Owner to which the resource belongs. Enums: <ul style="list-style-type: none"> ● MANAGED: Resources are managed by the service. ● DEDICATED: Resources are managed by the user account. This mode is supported only when the instance category is EFS.
status	String	EVS disk capacity expansion status, which is RESIZING during capacity expansion and does not affect the instance.

Example Requests

```
{
  "description": "update"
}
```

Example Responses

Status code: 200

OK

```
{
  "description": "test",
  "flavor": "modelarts.vm.cpu.8u",
  "name": "notebook-1111",
  "endpoints": [ {
    "allowed_access_ips": [ "1.1.1.1" ]
  } ]
}
```

Status Codes

Status Code	Description
200	OK
201	Created
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.5 Deleting a Notebook Instance

Function

This API is used to delete the container and all storage resources of a notebook instance.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v1/{project_id}/notebooks/{id}

Table 4-47 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Notebook instance ID.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

Status code: 200

Table 4-48 Response body parameters

Parameter	Type	Description
action_progress	Array of JobProgress objects	Instance initialization progress.

Parameter	Type	Description
description	String	Instance description
endpoints	Array of EndpointsRes objects	This section describes how to configure the local IDE (such as PyCharm and VS Code) or SSH client to remotely access a notebook instance through SSH.
fail_reason	String	Instance failure cause
flavor	String	Instance flavor
id	String	Instance ID.
image	Image object	Instance image
lease	Lease object	Countdown to automatic instance stop.
name	String	Instance name
pool	Pool object	Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.
status	String	Instance status. Options: <ul style="list-style-type: none"> ● INIT: The instance is being initialized. ● CREATING: The instance is being created. ● STARTING: The instance is starting. ● STOPPING: The instance is being stopped. ● DELETING: The instance is being deleted. ● RUNNING: The instance is running. ● STOPPED: The instance has been stopped. ● SNAPSHOTTING: The image of the instance is being saved. ● CREATE_FAILED: Creating the instance failed. ● START_FAILED: Starting the instance failed. ● DELETE_FAILED: Deleting the instance failed. ● ERROR: An error occurred. ● DELETED: The instance has been deleted. ● FROZEN: The instance is frozen.
token	String	Token information used for notebook authentication.
url	String	URL for accessing the notebook instance
volume	VolumeRes object	Storage volume

Parameter	Type	Description
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .
feature	String	Instance type. Options: <ul style="list-style-type: none"> ● DEFAULT: free CodeLab instance. You can create only one. ● NOTEBOOK: billed instance.

Table 4-49 JobProgress

Parameter	Type	Description
notebook_id	String	Instance ID.
status	String	Job status in a specified step. Enums: <ul style="list-style-type: none"> ● WAITING: The job is awaiting. ● PROCESSING: The job is being processed. ● FAILED: The job failed. ● COMPLETED: The job is complete.
step	Integer	Job step. Options: <ul style="list-style-type: none"> ● 1: Prepare storage. ● 2: Prepare compute resources. ● 3: Configure the network. ● 4: Initialize the instance.
step_description	String	Description of a step in a job.

Table 4-50 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelist of public IP addresses that are allowed to access the notebook instance through SSH. By default, all public IP addresses can access the notebook instance. If this parameter is specified, only the clients with the specified IP addresses can access the notebook instance.

Parameter	Type	Description
dev_service	String	Supported service. Options: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access the notebook instance through SSH.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	Supported service. The options are: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH.
uri	String	Private IP address of the instance

Table 4-51 Image

Parameter	Type	Description
arch	String	Processor architecture supported by the image. Enums: <ul style="list-style-type: none"> • X86_64: x86 architecture • AARCH64: Arm architecture
create_at	Long	Specifies the time (UTC ms) when the image is created.
description	String	Image description with a maximum of 512 characters
dev_services	Array of strings	Services supported by the image. Enums: <ul style="list-style-type: none"> • NOTEBOOK: You can access a notebook instance using HTTPS. • SSH: You can remotely access a notebook instance from a local IDE through SSH.
id	String	ID of the image used for creating development environment instances. The ID is in Universally Unique Identifier (UUID) format. For details, see Querying Supported Images .
name	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)

Parameter	Type	Description
namespace	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.
origin	String	Image source, which defaults to CUSTOMIZE . This parameter is optional. Enums: <ul style="list-style-type: none"> • CUSTOMIZE: custom image • IMAGE_SAVE: image saved using a development environment instance
resource_categories	Array of strings	Flavors supported by the image. Enums: <ul style="list-style-type: none"> • CPU • GPU • ASCEND
service_type	String	Supported image types. Options: <ul style="list-style-type: none"> • COMMON: common image • INFERENCE: image used for inference • TRAIN: image used for training • DEV: image used for development and debugging • UNKNOWN: image whose supported services are not specified
size	Long	Specifies the image size, in KB.
status	String	Image status. Options: <ul style="list-style-type: none"> • INIT: The image is being initialized. • CREATING: The image is being saved. In this case, the notebook instance is unavailable. • CREATE_FAILED: Saving the image failed. • ERROR: An error occurs. • DELETED: The image has been deleted. • ACTIVE: The image has been saved, which you can view on the SWR console and use to create notebook instances.
status_message	String	Build information during image saving
support_resource_categories	Array of strings	Flavors supported by the image. Options: <ul style="list-style-type: none"> • CPU • GPU • ASCEND

Parameter	Type	Description
swr_path	String	SWR image address
tag	String	Image tag
type	String	Image type. Options: <ul style="list-style-type: none"> ● BUILD_IN: built-in system image ● DEDICATED: private image
update_at	Long	Specifies the time (UTC ms) when the image was last updated.
visibility	String	Image visibility. Enums: <ul style="list-style-type: none"> ● PRIVATE: private image ● PUBLIC: All users can perform read-only operations based on the image ID.
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .

Table 4-52 Lease

Parameter	Type	Description
create_at	Long	Time (UTC) when the instance is created, accurate to millisecond.
duration	Long	Instance running duration, which is calculated based on the instance creation time. If the instance creation time plus the duration is greater than the current time, the system automatically stops the instance.
enable	Boolean	Whether to enable auto stop of the instance.
type	String	Indicates the automatic stop type.
update_at	Long	Time (UTC) when the instance is last updated (excluding the keepalive heartbeat time), accurate to millisecond.

Table 4-53 Pool

Parameter	Type	Description
id	String	ID of a dedicated resource pool
name	String	Name of a dedicated resource pool

Table 4-54 VolumeRes

Parameter	Type	Description
capacity	Integer	Storage capacity. The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4096 GB.
category	String	Supported storage types. For details about the differences between the storage types, see Selecting Storage in DevEnviron . Options: <ul style="list-style-type: none"> • SFS: Scalable File Service • EVS
mount_path	String	Directory of the notebook instance to which OBS storage is mounted. Currently, the directory is <code>/home/ma-user/work/</code> .
ownership	String	Owner to which the resource belongs. Enums: <ul style="list-style-type: none"> • MANAGED: Resources are managed by the service. • DEDICATED: Resources are managed by the user account. This mode is supported only when the instance category is EFS.
status	String	EVS disk capacity expansion status, which is RESIZING during capacity expansion and does not affect the instance.

Example Requests

```
DELETE https://{endpoint}/v1/{project_id}/notebooks/{id}
```

Example Responses

Status code: 200

OK

```
{
  "create_at": 1638841805440,
  "description": "update",
  "feature": "DEFAULT",
  "flavor": "modelarts.vm.cpu.free",
  "id": "f9937afa-ca78-45b6-bc12-7ecf42553c48",
  "image": {
    "description": "description",
    "id": "e1a07296-22a8-4f05-8bc8-e936c8e54090",
    "name": "notebook2.0-mul-kernel-cpu-cp36",
    "swr_path": "swr.xxxx.com/atelier/notebook2.0-mul-kernel-cpu-cp36:3.3.2-release_v1",
    "tag": "3.3.2-release_v1",
    "type": "BUILD_IN"
  },
  "lease": {
    "create_at": 1638841805439,
    "duration": 3600000,
    "enable": true,
    "update_at": 1638841805439
  }
}
```

```

},
"name" : "notebook_5ee4bf0e",
"status" : "DELETING",
"token" : "58ba50c6-e8ff-245c-4840-49e51aa70737",
"update_at" : 1638842504178,
"workspace_id" : "0"
}

```

Status Codes

Status Code	Description
200	OK
204	No Content
401	Unauthorized
403	Forbidden

Error Codes

See [Error Codes](#).

4.6 Saving a Running Instance as a Container Image

Function

A running instance can be saved as a container image. In the saved image, the installed dependency package (pip package) is not lost. In the VS Code remote development scenario, the plug-ins installed on the server are not lost.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v1/{project_id}/notebooks/{id}/create-image

Table 4-55 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Notebook instance ID.

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 4-56 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	Image description with a maximum of 512 characters
name	No	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)
namespace	No	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.
tag	No	String	Image tag, which can contain a maximum of 64 characters, including letters, digits, hyphens (-), underscores (_), and periods (.)
workspace_id	No	String	Workspace ID. If no workspaces are available, the default value is 0 .

Response Parameters

Status code: 200

Table 4-57 Response body parameters

Parameter	Type	Description
arch	String	Processor architecture supported by the image. Enums: <ul style="list-style-type: none"> ● X86_64: x86 architecture ● AARCH64: Arm architecture
create_at	Long	Specifies the time (UTC ms) when the image is created.
description	String	Image description with a maximum of 512 characters
dev_services	Array of strings	Services supported by the image. Enums: <ul style="list-style-type: none"> ● NOTEBOOK: You can access a notebook instance using HTTPS. ● SSH: You can remotely access a notebook instance from a local IDE through SSH.
id	String	ID of the image used for creating development environment instances. The ID is in Universally Unique Identifier (UUID) format. For details, see Querying Supported Images .
name	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)
namespace	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.
origin	String	Image source, which defaults to CUSTOMIZE . This parameter is optional. Enums: <ul style="list-style-type: none"> ● CUSTOMIZE: custom image ● IMAGE_SAVE: image saved using a development environment instance
resource_categories	Array of strings	Flavors supported by the image. Enums: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND

Parameter	Type	Description
service_type	String	Supported image types. Options: <ul style="list-style-type: none"> ● COMMON: common image ● INFERENCE: image used for inference ● TRAIN: image used for training ● DEV: image used for development and debugging ● UNKNOWN: image whose supported services are not specified
size	Long	Specifies the image size, in KB.
status	String	Image status. Options: <ul style="list-style-type: none"> ● INIT: The image is being initialized. ● CREATING: The image is being saved. In this case, the notebook instance is unavailable. ● CREATE_FAILED: Saving the image failed. ● ERROR: An error occurs. ● DELETED: The image has been deleted. ● ACTIVE: The image has been saved, which you can view on the SWR console and use to create notebook instances.
status_message	String	Build information during image saving
support_resource_categories	Array of strings	Flavors supported by the image. Options: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND
swr_path	String	SWR image address
tag	String	Image tag
type	String	Image type. Options: <ul style="list-style-type: none"> ● BUILD_IN: built-in system image ● DEDICATED: private image
update_at	Long	Specifies the time (UTC ms) when the image was last updated.
visibility	String	Image visibility. Enums: <ul style="list-style-type: none"> ● PRIVATE: private image ● PUBLIC: All users can perform read-only operations based on the image ID.

Parameter	Type	Description
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .

Example Requests

The following is an example of how to save a running instance as a container image whose image name is **pytorch1_4** and organization is **atelier-auto**.

```
{
  "name": "pytorch1_4",
  "namespace": "atelier-auto",
  "tag": "20221223",
  "description": "save from notebook-x21d",
  "workspace_id": "0"
}
```

Example Responses

Status code: 200

OK

```
{
  "arch": "x86_64",
  "create_at": 1671786468811,
  "description": "notebook2.0 20200816",
  "dev_services": [ "SSH", "NOTEBOOK" ],
  "id": "4e0d1854-63e5-4517-b683-a0ee97a692a1",
  "name": "pytorch1_4",
  "namespace": "atelier-auto",
  "origin": "IMAGE_SAVE",
  "resource_categories": [ "CPU", "GPU" ],
  "service_type": "TRAIN",
  "status": "INIT",
  "swr_path": "swr.xxxxx.com/atelier-auto/pytorch1_4:20221223",
  "tag": "20221223",
  "type": "DEDICATED",
  "update_at": 1671786468811,
  "visibility": "PRIVATE",
  "workspace_id": "0"
}
```

Status Codes

Status Code	Description
200	OK
201	Created
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.7 Obtaining the Available Flavors

Function

Obtain the available flavors.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/notebooks/flavors

Table 4-58 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 4-59 Query Parameters

Parameter	Mandatory	Type	Description
category	No	String	Processor type. Options: <ul style="list-style-type: none"> • CPU • GPU • ASCEND
limit	No	Integer	Number of records on each page. (No limit by default)
offset	No	Integer	Start offset of the records on each page. The default value is 0.

Parameter	Mandatory	Type	Description
type	No	String	Cluster type. Enums: <ul style="list-style-type: none"> • MANAGED: public cluster • DEDICATED: dedicated cluster
sort_dir	No	String	Sorting mode. The options are ASC (ascending order) and DESC (descending order). The default value is DESC .
sort_key	No	String	Sorting fields. Separate multiple fields with commas (,).

Request Parameters

None

Response Parameters

Status code: 200

Table 4-60 Response body parameters

Parameter	Type	Description
current	Integer	Current page
data	Array of NotebookFlavor objects	Pagination data
flavors	Array of NotebookFlavor objects	List of specifications that can be switched.
pages	Integer	Total number of pages
size	Integer	Number of records on each page
total	Long	Total number of records

Table 4-61 NotebookFlavor

Parameter	Type	Description
arch	String	Architecture type. <ul style="list-style-type: none"> • X86_64 • AARCH64
ascend	AscendInfo object	NPU information
billing	BillingInfo object	CDR information
category	String	Processor type. Options: <ul style="list-style-type: none"> • CPU • GPU • ASCEND
description	String	Specification description
feature	String	Specification type. The options are as follows: <ul style="list-style-type: none"> • DEFAULT: CodeLab specification. • NOTEBOOK: Notebook specifications.
free	Boolean	Specifies whether the flavor is free of charge.
gpu	GPUInfo object	GPU information
id	String	Flavor ID
memory	Long	Memory size
name	String	Flavor name
sold_out	Boolean	Whether resources are sufficient. <ul style="list-style-type: none"> • true: Resources are insufficient. • false: Resources are sufficient.
storages	Array of strings	Storage type. Options: <ul style="list-style-type: none"> • EFS • EVS
vcpus	Integer	Number of vCPUs

Table 4-62 AscendInfo

Parameter	Type	Description
npu	Integer	Number of NPUs.

Parameter	Type	Description
npu_memory	String	NPU memory.
type	String	NPU type.

Table 4-63 BillingInfo

Parameter	Type	Description
code	String	Billing code.
unit_num	Integer	Billing unit.

Table 4-64 GPUInfo

Parameter	Type	Description
gpu	Integer	Number of GPUs.
gpu_memory	String	GPU memory.
type	String	GPU type.

Example Requests

GET https://{endpoint}/v1/{project_id}/notebooks/flavors

Example Responses

Status code: 200

OK

```
{
  "current": 1,
  "data": [ {
    "arch": "x86_64",
    "billing": {
      "code": "modelarts.vm.cpu.2u",
      "unit_num": 1
    },
    "category": "CPU",
    "description": "General-purpose Intel CPU flavor, ideal for rapid data exploration and experiments",
    "feature": "NOTEBOOK",
    "free": false,
    "id": "modelarts.vm.cpu.2u",
    "memory": 8388608,
    "name": "CPU: 2 vCPUs 8 GB",
    "sold_out": false,
    "storages": [ "EVS", "OBSFS", "EFS", "OBS" ],
    "vcpus": 2
  } ],
  "pages": 1,
  "size": 1,
}
```

```
"total" : 1  
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.8 Querying Flavors Available for a Notebook Instance

Function

This API is used to query the flavors available for a notebook instance.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/notebooks/{id}/flavors

Table 4-65 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Notebook instance ID.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 4-66 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records on each page. (No limit by default)
offset	No	Integer	Start offset of the records on each page

Request Parameters

None

Response Parameters

Status code: 200

Table 4-67 Response body parameters

Parameter	Type	Description
current	Integer	Current page
data	Array of NotebookFlavor objects	Pagination data
flavors	Array of NotebookFlavor objects	List of specifications that can be switched.
pages	Integer	Total number of pages
size	Integer	Number of records on each page
total	Long	Total number of records

Table 4-68 NotebookFlavor

Parameter	Type	Description
arch	String	Architecture type. <ul style="list-style-type: none"> • X86_64 • AARCH64
ascend	AscendInfo object	NPU information
billing	BillingInfo object	CDR information

Parameter	Type	Description
category	String	Processor type. Options: <ul style="list-style-type: none"> • CPU • GPU • ASCEND
description	String	Specification description
feature	String	Specification type. The options are as follows: <ul style="list-style-type: none"> • DEFAULT: CodeLab specification. • NOTEBOOK: Notebook specifications.
free	Boolean	Specifies whether the flavor is free of charge.
gpu	GPUInfo object	GPU information
id	String	Flavor ID
memory	Long	Memory size
name	String	Flavor name
sold_out	Boolean	Whether resources are sufficient. <ul style="list-style-type: none"> • true: Resources are insufficient. • false: Resources are sufficient.
storages	Array of strings	Storage type. Options: <ul style="list-style-type: none"> • EFS • EVS
vcpus	Integer	Number of vCPUs

Table 4-69 AscendInfo

Parameter	Type	Description
npu	Integer	Number of NPUs.
npu_memory	String	NPU memory.
type	String	NPU type.

Table 4-70 BillingInfo

Parameter	Type	Description
code	String	Billing code.

Parameter	Type	Description
unit_num	Integer	Billing unit.

Table 4-71 GPUInfo

Parameter	Type	Description
gpu	Integer	Number of GPUs.
gpu_memory	String	GPU memory.
type	String	GPU type.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/notebooks/{id}/flavors
```

Example Responses

Status code: 200

OK

```
{
  "current" : 1,
  "data" : [ {
    "arch" : "aarch64",
    "ascend" : {
      "npu_memory" : "32",
      "npu" : 2,
      "type" : "ascend-snt9"
    },
    "billing" : {
      "code" : "modelarts.kat1.xlarge",
      "unit_num" : 2
    },
    "category" : "ASCEND",
    "description" : "The Ascend specification is suitable for deep learning code running and debugging",
    "feature" : "NOTEBOOK",
    "free" : false,
    "id" : "modelarts.bm.snt9.xlarge.2",
    "memory" : 201326592,
    "name" : "Ascend: 2*Ascend snt9|CPU: 48vCPUs 192GB",
    "sold_out" : false,
    "storages" : [ "EFS" ],
    "vcpus" : 48
  }, {
    "arch" : "aarch64",
    "ascend" : {
      "npu_memory" : "128",
      "npu" : 8,
      "type" : "ascend-snt9"
    },
    "billing" : {
      "code" : "modelarts.kat1.8xlarge",
      "unit_num" : 1
    },
    "category" : "ASCEND",
    "description" : "The Ascend specification is suitable for deep learning code running and debugging",
```



```

"feature": "NOTEBOOK",
"free": false,
"id": "modelarts.bm.snt9.xlarge.8",
"memory": 805306368,
"name": "Ascend: 8*Ascend snt9|CPU: 192vCPUs 768GB",
"sold_out": false,
"storages": [ "EFS" ],
"vcpus": 192
}],
"flavors": [ {
"arch": "aarch64",
"ascend": {
"npu_memory": "32",
"npu": 2,
"type": "ascend-snt9"
},
"billing": {
"code": "modelarts.kat1.xlarge",
"unit_num": 2
},
"category": "ASCEND",
"description": "The Ascend specification is suitable for deep learning code running and debugging",
"feature": "NOTEBOOK",
"free": false,
"id": "modelarts.bm.snt9.xlarge.2",
"memory": 201326592,
"name": "Ascend: 2*Ascend snt9|CPU: 48vCPUs 192GB",
"sold_out": false,
"storages": [ "EFS" ],
"vcpus": 48
}, {
"arch": "aarch64",
"ascend": {
"npu_memory": "128",
"npu": 8,
"type": "ascend-snt9"
},
"billing": {
"code": "modelarts.kat1.8xlarge",
"unit_num": 1
},
"category": "ASCEND",
"description": "The Ascend specification is suitable for deep learning code running and debugging",
"feature": "NOTEBOOK",
"free": false,
"id": "modelarts.bm.snt9.xlarge.8",
"memory": 805306368,
"name": "Ascend: 8*Ascend snt9|CPU: 192vCPUs 768GB",
"sold_out": false,
"storages": [ "EFS" ],
"vcpus": 192
}],
"pages": 1,
"size": 2,
"total": 2
}

```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden

Status Code	Description
404	Not Found

Error Codes

See [Error Codes](#).

4.9 Querying the Available Duration of a Running Notebook Instance

Function

This API is used to query the available duration of a running notebook instance.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/notebooks/{id}/lease

Table 4-72 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Notebook instance ID.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

Status code: 200

Table 4-73 Response body parameters

Parameter	Type	Description
create_at	Long	Time (UTC) when the instance is created, accurate to millisecond.
duration	Long	Instance running duration, which is calculated based on the instance creation time. If the instance creation time plus the duration is greater than the current time, the system automatically stops the instance.
enable	Boolean	Whether to enable auto stop of the instance.
type	String	Indicates the automatic stop type.
update_at	Long	Time (UTC) when the instance is last updated (excluding the keepalive heartbeat time), accurate to millisecond.

Example Requests

GET https://{endpoint}/v1/{project_id}/notebooks/{id}/lease

Example Responses

Status code: 200

OK

```
{
  "create_at" : 1638841744515,
  "duration" : 3600000,
  "enable" : true,
  "type" : "TIMING",
  "update_at" : 1638842905925
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.10 Prolonging a Notebook Instance

Function

This API is used to prolong a notebook instance.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PATCH /v1/{project_id}/notebooks/{id}/lease

Table 4-74 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Notebook instance ID.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 4-75 Query Parameters

Parameter	Mandatory	Type	Description
duration	No	Long	Renewal duration. You are advised to set this parameter in leaseReq. If the request parameter contains duration, the value of leaseReq is ignored and the automatic instance stop type is scheduled stop. (Unit: ms)

Request Parameters

Table 4-76 Request body parameters

Parameter	Mandatory	Type	Description
duration	No	Long	Indicates the running duration starting from the current time. After the running duration expires, the system automatically stops. Unit: ms.
type	No	String	Automatic stop type. The default value is timing.

Response Parameters

Status code: 200

Table 4-77 Response body parameters

Parameter	Type	Description
create_at	Long	Time (UTC) when the instance is created, accurate to millisecond.
duration	Long	Instance running duration, which is calculated based on the instance creation time. If the instance creation time plus the duration is greater than the current time, the system automatically stops the instance.
enable	Boolean	Whether to enable auto stop of the instance.
type	String	Indicates the automatic stop type.
update_at	Long	Time (UTC) when the instance is last updated (excluding the keepalive heartbeat time), accurate to millisecond.

Example Requests

Prolong the available duration of a running notebook instance.

```
https://{endpoint}/v1/{project_id}/notebooks/{id}/lease
```

```
{
  "duration" : 3600000,
  "type" : "timing"
}
```

Example Responses

Status code: 200

OK

```
{  
  "create_at" : 1638841744515,  
  "duration" : 3600000,  
  "enable" : true,  
  "type" : "TIMING",  
  "update_at" : 1638843018759  
}
```

Status Codes

Status Code	Description
200	OK
204	No Content
401	Unauthorized
403	Forbidden

Error Codes

See [Error Codes](#).

4.11 Starting a Notebook Instance

Function

This API is used to start a notebook instance.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v1/{project_id}/notebooks/{id}/start

Table 4-78 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Notebook instance ID.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 4-79 Query Parameters

Parameter	Mandatory	Type	Description
duration	No	Long	Running duration after startup, in milliseconds.
type	No	String	Automatic stop type. The default value is timing.

Request Parameters

None

Response Parameters

Status code: 200

Table 4-80 Response body parameters

Parameter	Type	Description
action_progress	Array of JobProgress objects	Instance initialization progress.
description	String	Instance description
endpoints	Array of EndpointsRes objects	This section describes how to configure the local IDE (such as PyCharm and VS Code) or SSH client to remotely access a notebook instance through SSH.
fail_reason	String	Instance failure cause
flavor	String	Instance flavor
id	String	Instance ID.
image	Image object	Instance image
lease	Lease object	Countdown to automatic instance stop.

Parameter	Type	Description
name	String	Instance name
pool	Pool object	Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.
status	String	Instance status. Options: <ul style="list-style-type: none"> • INIT: The instance is being initialized. • CREATING: The instance is being created. • STARTING: The instance is starting. • STOPPING: The instance is being stopped. • DELETING: The instance is being deleted. • RUNNING: The instance is running. • STOPPED: The instance has been stopped. • SNAPSHOTTING: The image of the instance is being saved. • CREATE_FAILED: Creating the instance failed. • START_FAILED: Starting the instance failed. • DELETE_FAILED: Deleting the instance failed. • ERROR: An error occurred. • DELETED: The instance has been deleted. • FROZEN: The instance is frozen.
token	String	Token information used for notebook authentication.
url	String	URL for accessing the notebook instance
volume	VolumeRes object	Storage volume
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .
feature	String	Instance type. Options: <ul style="list-style-type: none"> • DEFAULT: free CodeLab instance. You can create only one. • NOTEBOOK: billed instance.

Table 4-81 JobProgress

Parameter	Type	Description
notebook_id	String	Instance ID.

Parameter	Type	Description
status	String	Job status in a specified step. Enums: <ul style="list-style-type: none"> ● WAITING: The job is awaiting. ● PROCESSING: The job is being processed. ● FAILED: The job failed. ● COMPLETED: The job is complete.
step	Integer	Job step. Options: <ul style="list-style-type: none"> ● 1: Prepare storage. ● 2: Prepare compute resources. ● 3: Configure the network. ● 4: Initialize the instance.
step_description	String	Description of a step in a job.

Table 4-82 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelist of public IP addresses that are allowed to access the notebook instance through SSH. By default, all public IP addresses can access the notebook instance. If this parameter is specified, only the clients with the specified IP addresses can access the notebook instance.
dev_service	String	Supported service. Options: <ul style="list-style-type: none"> ● NOTEBOOK: You can access notebook instances using HTTPS. ● SSH: You can remotely access the notebook instance through SSH.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	Supported service. The options are: <ul style="list-style-type: none"> ● NOTEBOOK: You can access notebook instances using HTTPS. ● SSH: You can remotely access notebook instances through SSH.
uri	String	Private IP address of the instance

Table 4-83 Image

Parameter	Type	Description
arch	String	Processor architecture supported by the image. Enums: <ul style="list-style-type: none"> ● X86_64: x86 architecture ● AARCH64: Arm architecture
create_at	Long	Specifies the time (UTC ms) when the image is created.
description	String	Image description with a maximum of 512 characters
dev_services	Array of strings	Services supported by the image. Enums: <ul style="list-style-type: none"> ● NOTEBOOK: You can access a notebook instance using HTTPS. ● SSH: You can remotely access a notebook instance from a local IDE through SSH.
id	String	ID of the image used for creating development environment instances. The ID is in Universally Unique Identifier (UUID) format. For details, see Querying Supported Images .
name	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)
namespace	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.
origin	String	Image source, which defaults to CUSTOMIZE . This parameter is optional. Enums: <ul style="list-style-type: none"> ● CUSTOMIZE: custom image ● IMAGE_SAVE: image saved using a development environment instance
resource_categories	Array of strings	Flavors supported by the image. Enums: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND

Parameter	Type	Description
service_type	String	Supported image types. Options: <ul style="list-style-type: none"> ● COMMON: common image ● INFERENCE: image used for inference ● TRAIN: image used for training ● DEV: image used for development and debugging ● UNKNOWN: image whose supported services are not specified
size	Long	Specifies the image size, in KB.
status	String	Image status. Options: <ul style="list-style-type: none"> ● INIT: The image is being initialized. ● CREATING: The image is being saved. In this case, the notebook instance is unavailable. ● CREATE_FAILED: Saving the image failed. ● ERROR: An error occurs. ● DELETED: The image has been deleted. ● ACTIVE: The image has been saved, which you can view on the SWR console and use to create notebook instances.
status_message	String	Build information during image saving
support_resource_categories	Array of strings	Flavors supported by the image. Options: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND
swr_path	String	SWR image address
tag	String	Image tag
type	String	Image type. Options: <ul style="list-style-type: none"> ● BUILD_IN: built-in system image ● DEDICATED: private image
update_at	Long	Specifies the time (UTC ms) when the image was last updated.
visibility	String	Image visibility. Enums: <ul style="list-style-type: none"> ● PRIVATE: private image ● PUBLIC: All users can perform read-only operations based on the image ID.

Parameter	Type	Description
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .

Table 4-84 Lease

Parameter	Type	Description
create_at	Long	Time (UTC) when the instance is created, accurate to millisecond.
duration	Long	Instance running duration, which is calculated based on the instance creation time. If the instance creation time plus the duration is greater than the current time, the system automatically stops the instance.
enable	Boolean	Whether to enable auto stop of the instance.
type	String	Indicates the automatic stop type.
update_at	Long	Time (UTC) when the instance is last updated (excluding the keepalive heartbeat time), accurate to millisecond.

Table 4-85 Pool

Parameter	Type	Description
id	String	ID of a dedicated resource pool
name	String	Name of a dedicated resource pool

Table 4-86 VolumeRes

Parameter	Type	Description
capacity	Integer	Storage capacity. The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4096 GB.
category	String	Supported storage types. For details about the differences between the storage types, see Selecting Storage in DevEnviron . Options: <ul style="list-style-type: none"> • SFS: Scalable File Service • EVS

Parameter	Type	Description
mount_path	String	Directory of the notebook instance to which OBS storage is mounted. Currently, the directory is /home/ma-user/work/ .
ownership	String	Owner to which the resource belongs. Enums: <ul style="list-style-type: none"> ● MANAGED: Resources are managed by the service. ● DEDICATED: Resources are managed by the user account. This mode is supported only when the instance category is EFS.
status	String	EVS disk capacity expansion status, which is RESIZING during capacity expansion and does not affect the instance.

Example Requests

```
{}
```

Example Responses

Status code: 200

OK

```
{
  "description": "api-test",
  "feature": "NOTEBOOK",
  "flavor": "modelarts.vm.cpu.2u",
  "id": "f9937afa-4451-42db-a76b-72d624749f66",
  "image": {
    "description": "description",
    "id": "e1a07296-22a8-4f05-8bc8-e936c8e54090",
    "name": "notebook2.0-mul-kernel-cpu-cp36",
    "swr_path": "swr.xxxx.com/atelier/notebook2.0-mul-kernel-cpu-cp36:3.3.2-release_v1",
    "tag": "3.3.2-release_v1",
    "type": "BUILD_IN"
  },
  "lease": {
    "create_at": 1638841744515,
    "duration": 6327212,
    "enable": true,
    "type": "TIMING",
    "update_at": 1638844471727
  },
  "name": "notebooks_test",
  "status": "STARTING",
  "token": "5cc60e8b-8772-7690-efd6-a5874ca387c0",
  "url": "https://authoring-modelarts-xxxxx.xxxx.com/f9937afa-4451-42db-a76b-72d624749f66/lab",
  "volume": {
    "category": "EFS",
    "ownership": "MANAGED",
    "mount_path": "/home/ma-user/work/",
    "capacity": 50
  },
  "workspace_id": "0"
}
```

Status Codes

Status Code	Description
200	OK
201	Created
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.12 Stopping a Notebook Instance

Function

This API is used to stop a notebook instance.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v1/{project_id}/notebooks/{id}/stop

Table 4-87 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Notebook instance ID.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

Status code: 200

Table 4-88 Response body parameters

Parameter	Type	Description
action_progress	Array of JobProgress objects	Instance initialization progress.
description	String	Instance description
endpoints	Array of EndpointsRes objects	This section describes how to configure the local IDE (such as PyCharm and VS Code) or SSH client to remotely access a notebook instance through SSH.
fail_reason	String	Instance failure cause
flavor	String	Instance flavor
id	String	Instance ID.
image	Image object	Instance image
lease	Lease object	Countdown to automatic instance stop.
name	String	Instance name
pool	Pool object	Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.

Parameter	Type	Description
status	String	Instance status. Options: <ul style="list-style-type: none"> • INIT: The instance is being initialized. • CREATING: The instance is being created. • STARTING: The instance is starting. • STOPPING: The instance is being stopped. • DELETING: The instance is being deleted. • RUNNING: The instance is running. • STOPPED: The instance has been stopped. • SNAPSHOTTING: The image of the instance is being saved. • CREATE_FAILED: Creating the instance failed. • START_FAILED: Starting the instance failed. • DELETE_FAILED: Deleting the instance failed. • ERROR: An error occurred. • DELETED: The instance has been deleted. • FROZEN: The instance is frozen.
token	String	Token information used for notebook authentication.
url	String	URL for accessing the notebook instance
volume	VolumeRes object	Storage volume
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .
feature	String	Instance type. Options: <ul style="list-style-type: none"> • DEFAULT: free CodeLab instance. You can create only one. • NOTEBOOK: billed instance.

Table 4-89 JobProgress

Parameter	Type	Description
notebook_id	String	Instance ID.

Parameter	Type	Description
status	String	Job status in a specified step. Enums: <ul style="list-style-type: none"> ● WAITING: The job is awaiting. ● PROCESSING: The job is being processed. ● FAILED: The job failed. ● COMPLETED: The job is complete.
step	Integer	Job step. Options: <ul style="list-style-type: none"> ● 1: Prepare storage. ● 2: Prepare compute resources. ● 3: Configure the network. ● 4: Initialize the instance.
step_description	String	Description of a step in a job.

Table 4-90 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelist of public IP addresses that are allowed to access the notebook instance through SSH. By default, all public IP addresses can access the notebook instance. If this parameter is specified, only the clients with the specified IP addresses can access the notebook instance.
dev_service	String	Supported service. Options: <ul style="list-style-type: none"> ● NOTEBOOK: You can access notebook instances using HTTPS. ● SSH: You can remotely access the notebook instance through SSH.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	Supported service. The options are: <ul style="list-style-type: none"> ● NOTEBOOK: You can access notebook instances using HTTPS. ● SSH: You can remotely access notebook instances through SSH.
uri	String	Private IP address of the instance

Table 4-91 Image

Parameter	Type	Description
arch	String	Processor architecture supported by the image. Enums: <ul style="list-style-type: none"> ● X86_64: x86 architecture ● AARCH64: Arm architecture
create_at	Long	Specifies the time (UTC ms) when the image is created.
description	String	Image description with a maximum of 512 characters
dev_services	Array of strings	Services supported by the image. Enums: <ul style="list-style-type: none"> ● NOTEBOOK: You can access a notebook instance using HTTPS. ● SSH: You can remotely access a notebook instance from a local IDE through SSH.
id	String	ID of the image used for creating development environment instances. The ID is in Universally Unique Identifier (UUID) format. For details, see Querying Supported Images .
name	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)
namespace	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.
origin	String	Image source, which defaults to CUSTOMIZE . This parameter is optional. Enums: <ul style="list-style-type: none"> ● CUSTOMIZE: custom image ● IMAGE_SAVE: image saved using a development environment instance
resource_categories	Array of strings	Flavors supported by the image. Enums: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND

Parameter	Type	Description
service_type	String	Supported image types. Options: <ul style="list-style-type: none"> ● COMMON: common image ● INFERENCE: image used for inference ● TRAIN: image used for training ● DEV: image used for development and debugging ● UNKNOWN: image whose supported services are not specified
size	Long	Specifies the image size, in KB.
status	String	Image status. Options: <ul style="list-style-type: none"> ● INIT: The image is being initialized. ● CREATING: The image is being saved. In this case, the notebook instance is unavailable. ● CREATE_FAILED: Saving the image failed. ● ERROR: An error occurs. ● DELETED: The image has been deleted. ● ACTIVE: The image has been saved, which you can view on the SWR console and use to create notebook instances.
status_message	String	Build information during image saving
support_resource_categories	Array of strings	Flavors supported by the image. Options: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND
swr_path	String	SWR image address
tag	String	Image tag
type	String	Image type. Options: <ul style="list-style-type: none"> ● BUILD_IN: built-in system image ● DEDICATED: private image
update_at	Long	Specifies the time (UTC ms) when the image was last updated.
visibility	String	Image visibility. Enums: <ul style="list-style-type: none"> ● PRIVATE: private image ● PUBLIC: All users can perform read-only operations based on the image ID.

Parameter	Type	Description
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .

Table 4-92 Lease

Parameter	Type	Description
create_at	Long	Time (UTC) when the instance is created, accurate to millisecond.
duration	Long	Instance running duration, which is calculated based on the instance creation time. If the instance creation time plus the duration is greater than the current time, the system automatically stops the instance.
enable	Boolean	Whether to enable auto stop of the instance.
type	String	Indicates the automatic stop type.
update_at	Long	Time (UTC) when the instance is last updated (excluding the keepalive heartbeat time), accurate to millisecond.

Table 4-93 Pool

Parameter	Type	Description
id	String	ID of a dedicated resource pool
name	String	Name of a dedicated resource pool

Table 4-94 VolumeRes

Parameter	Type	Description
capacity	Integer	Storage capacity. The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4096 GB.
category	String	Supported storage types. For details about the differences between the storage types, see Selecting Storage in DevEnviron . Options: <ul style="list-style-type: none"> • SFS: Scalable File Service • EVS

Parameter	Type	Description
mount_path	String	Directory of the notebook instance to which OBS storage is mounted. Currently, the directory is /home/ma-user/work/ .
ownership	String	Owner to which the resource belongs. Enums: <ul style="list-style-type: none"> ● MANAGED: Resources are managed by the service. ● DEDICATED: Resources are managed by the user account. This mode is supported only when the instance category is EFS.
status	String	EVS disk capacity expansion status, which is RESIZING during capacity expansion and does not affect the instance.

Example Requests

```
POST https://{endpoint}/v1/{project_id}/notebooks/{id}/stop
```

Example Responses

Status code: 200

OK

```
{
  "description": "api-test",
  "feature": "NOTEBOOK",
  "flavor": "modelarts.vm.cpu.2u",
  "id": "f9937afa-4451-42db-a76b-72d624749f66",
  "image": {
    "description": "description",
    "id": "e1a07296-22a8-4f05-8bc8-e936c8e54090",
    "name": "notebook2.0-mul-kernel-cpu-cp36",
    "swr_path": "swr.xxxx.com/atelier/notebook2.0-mul-kernel-cpu-cp36:3.3.2-release_v1",
    "tag": "3.3.2-release_v1",
    "type": "BUILD_IN"
  },
  "lease": {
    "create_at": 1638841744515,
    "duration": 5313106,
    "enable": true,
    "update_at": 1638843457621
  },
  "name": "notebooks_test",
  "status": "STOPPING",
  "token": "7bddd8ff-8a0d-e063-3107-c70a862832de",
  "url": "https://authoring-modelarts-xxxx.xxxx.com/f9937afa-4451-42db-a76b-72d624749f66/lab",
  "volume": {
    "category": "EFS",
    "ownership": "MANAGED",
    "mount_path": "/home/ma-user/work/",
    "capacity": 50
  },
  "workspace_id": "0"
}
```

Status Codes

Status Code	Description
200	OK
201	Created
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.13 Obtaining the Notebook Instances with OBS Storage Mounted

Function

This API is used to obtain the notebook instances with OBS storage mounted.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/notebooks/{instance_id}/storage

Table 4-95 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Notebook instance ID.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

Status code: 200

Table 4-96 Response body parameters

Parameter	Type	Description
current	Integer	Current page
data	Array of DataVolumesRes objects	Data
pages	Integer	Total pages
size	Integer	Number of records on each page
total	Long	Total records

Table 4-97 DataVolumesRes

Parameter	Type	Description
category	String	Storage type The value can be OBS.
id	String	ID of the instance with OBS storage mounted.
mount_path	String	Path where OBS storage is mounted to a notebook instance.
status	String	Status of OBS storage to be mounted. Options: <ul style="list-style-type: none"> ● MOUNTING: being mounted ● MOUNT_FAILED: mounting failed ● MOUNTED: mounted ● UNMOUNTING: being unmounted ● UNMOUNT_FAILED: unmounting failed ● UNMOUNTED: unmounted
uri	String	OBS object path

Example Requests

GET https://{endpoint}/v1/{project_id}/notebooks/{instance_id}/storage

Example Responses

Status code: 200

OK

```
{
  "current": 1,
  "data": [ {
    "id": "91dd2d3f-2d92-475f-a375-04636af26cc9",
    "category": "OBSFS",
    "mount_path": "/data/wang/",
    "uri": "obs://authoring-test/wang/",
    "status": "MOUNTED"
  } ],
  "pages": 1,
  "size": 1,
  "total": 1
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.14 OBS Storage Mounting

Function

An OBS parallel file system can be mounted to a specified file directory of a running notebook instance. After the mounting, objects in the OBS parallel file system can be read and written in the container as a file system.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v1/{project_id}/notebooks/{instance_id}/storage

Table 4-98 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Notebook instance ID.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 4-99 Request body parameters

Parameter	Mandatory	Type	Description
category	No	String	Storage type The value can be OBS.
mount_path	No	String	Path mounted to the notebook instance. The path must be in the /data/ subdirectory of the notebook instance.
uri	No	String	OBS object path, for example, obs://modelarts/notebook/ .

Response Parameters

Status code: 200

Table 4-100 Response body parameters

Parameter	Type	Description
category	String	Storage type The value can be OBS.
id	String	ID of the instance with OBS storage mounted.
mount_path	String	Path where OBS storage is mounted to a notebook instance.

Parameter	Type	Description
status	String	Status of OBS storage to be mounted. Options: <ul style="list-style-type: none"> ● MOUNTING: being mounted ● MOUNT_FAILED: mounting failed ● MOUNTED: mounted ● UNMOUNTING: being unmounted ● UNMOUNT_FAILED: unmounting failed ● UNMOUNTED: unmounted
uri	String	OBS object path

Example Requests

The following is an example of how to dynamically mount an OBS parallel file system to the **/data/wang/** directory in the instance.

```
{
  "category": "OBS",
  "mount_path": "/data/wang/",
  "uri": "obs://authoring-test/wang/"
}
```

Example Responses

Status code: 200

OK

```
{
  "id": "91dd2d3f-2d92-475f-a375-04636af26cc9",
  "category": "OBSFS",
  "mount_path": "/data/wang/",
  "uri": "obs://authoring-test/wang/",
  "status": "MOUNTING"
}
```

Status Codes

Status Code	Description
200	OK
201	Created
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.15 Obtaining Details About a Notebook Instance with OBS Storage Mounted

Function

This API is used to obtain details about a notebook instance with OBS storage mounted.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/notebooks/{instance_id}/storage/{storage_id}

Table 4-101 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Notebook instance ID.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
storage_id	Yes	String	OBS storage ID.

Request Parameters

None

Response Parameters

Status code: 200

Table 4-102 Response body parameters

Parameter	Type	Description
category	String	Storage type The value can be OBS.
id	String	ID of the instance with OBS storage mounted.
mount_path	String	Path where OBS storage is mounted to a notebook instance.
status	String	Status of OBS storage to be mounted. Options: <ul style="list-style-type: none"> ● MOUNTING: being mounted ● MOUNT_FAILED: mounting failed ● MOUNTED: mounted ● UNMOUNTING: being unmounted ● UNMOUNT_FAILED: unmounting failed ● UNMOUNTED: unmounted
uri	String	OBS object path

Example Requests

```
GET https://{endpoint}/v1/{project_id}/notebooks/{instance_id}/storage/{storage_id}
```

Example Responses

Status code: 200

OK

```
{
  "id" : "91dd2d3f-2d92-475f-a375-04636af26cc9",
  "category" : "OBSFS",
  "mount_path" : "/data/wang/",
  "uri" : "obs://authoring-test/wang/",
  "status" : "MOUNTED"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.16 Unmounting OBS Storage from a Notebook Instance

Function

This API is used to unmount OBS storage from a notebook instance. After OBS storage is unmounted, OBS objects remain unchanged but cannot be operated in the notebook container.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v1/{project_id}/notebooks/{instance_id}/storage/{storage_id}

Table 4-103 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Notebook instance ID.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
storage_id	Yes	String	OBS storage ID.

Request Parameters

None

Response Parameters

Status code: 200

Table 4-104 Response body parameters

Parameter	Type	Description
category	String	Storage type The value can be OBS.
id	String	ID of the instance with OBS storage mounted.
mount_path	String	Path where OBS storage is mounted to a notebook instance.
status	String	Status of OBS storage to be mounted. Options: <ul style="list-style-type: none"> ● MOUNTING: being mounted ● MOUNT_FAILED: mounting failed ● MOUNTED: mounted ● UNMOUNTING: being unmounted ● UNMOUNT_FAILED: unmounting failed ● UNMOUNTED: unmounted
uri	String	OBS object path

Example Requests

DELETE https://{endpoint}/v1/{project_id}/notebooks/{instance_id}/storage/{storage_id}

Example Responses

Status code: 200

OK

```
{
  "category": "OBSFS",
  "id": "91dd2d3f-2d92-475f-a375-04636af26cc9",
  "mount_path": "/data/wang/",
  "status": "UNMOUNTING",
  "uri": "obs://authoring-test/wang/"
}
```

Status Codes

Status Code	Description
200	OK
204	No Content
401	Unauthorized
403	Forbidden

Error Codes

See [Error Codes](#).

4.17 Querying Supported Images

Function

This API is used to query all images by page based on specified conditions.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/images

Table 4-105 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 4-106 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records on each page. The default value is 200 .
name	No	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)
name_fuzzy_match	No	Boolean	Whether the image name is used for fuzzy match. The default value is true .

Parameter	Mandatory	Type	Description
namespace	No	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.
offset	No	Integer	Start offset of the records on each page. The default value is 0 .
service_type	No	String	Supported image types. Options: <ul style="list-style-type: none"> ● COMMON: common image ● INFERENCE: image used for inference ● TRAIN: image used for training ● DEV: image used for development and debugging ● UNKNOWN: image whose supported services are not specified
sort_dir	No	String	Sorting mode. The options are ASC (ascending order) and DESC (descending order). The default value is DESC .
sort_key	No	String	Sorting fields. Separate multiple fields with commas (,).
type	No	String	Image type. Options: <ul style="list-style-type: none"> ● BUILD_IN: built-in system image ● DEDICATED: private image
workspace_id	No	String	Workspace ID. If no workspaces are available, the default value is 0 .

Request Parameters

None

Response Parameters

Status code: 200

Table 4-107 Response body parameters

Parameter	Type	Description
current	Integer	Current page
data	Array of ImageResponse objects	Data
pages	Integer	Total pages
size	Integer	Number of records on each page
total	Long	Total records

Table 4-108 ImageResponse

Parameter	Type	Description
arch	String	Processor architecture supported by the image. Enums: <ul style="list-style-type: none"> • X86_64: x86 architecture • AARCH64: Arm architecture
create_at	Long	Time (UTC) when the image is created, accurate to millisecond
description	String	Image description with a maximum of 512 characters
dev_services	Array of strings	Services supported by the image. Enums: <ul style="list-style-type: none"> • NOTEBOOK: You can access a notebook instance using HTTPS. • SSH: You can remotely access a notebook instance from a local IDE through SSH.
id	String	ID of the image used for creating development environment instances. The ID is in Universally Unique Identifier (UUID) format. For details, see Querying Supported Images .
name	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)

Parameter	Type	Description
namespace	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.
origin	String	Image source, which defaults to CUSTOMIZE . This parameter is optional. Enums: <ul style="list-style-type: none"> ● CUSTOMIZE: custom image ● IMAGE_SAVE: image saved using a development environment instance
resource_categories	Array of strings	Flavors supported by the image. Enums: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND
service_type	String	Supported image types. Options: <ul style="list-style-type: none"> ● COMMON: common image ● INFERENCE: image used for inference ● TRAIN: image used for training ● DEV: image used for development and debugging ● UNKNOWN: image whose supported services are not specified
size	Long	Specifies the image size, in KB.
status	String	Image status. Options: <ul style="list-style-type: none"> ● INIT: The image is being initialized. ● CREATING: The image is being saved. In this case, the notebook instance is unavailable. ● CREATE_FAILED: Saving the image failed. ● ERROR: An error occurs. ● DELETED: The image has been deleted. ● ACTIVE: The image has been saved, which you can view on the SWR console and use to create notebook instances.
status_message	String	Build information during image saving
swr_path	String	SWR image address
tag	String	Image tag

Parameter	Type	Description
type	String	Image type. Options: <ul style="list-style-type: none"> ● BUILD_IN: built-in system image ● DEDICATED: image you have saved
update_at	Long	Time (UTC) when the image was last updated, accurate to millisecond
visibility	String	Image visibility. Options: <ul style="list-style-type: none"> ● PRIVATE: private image ● PUBLIC: All users can perform read-only operations based on the image ID.
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .

Example Requests

```
GET https://{endpoint}/v1/{project_id}/images
```

Example Responses

Status code: 200

OK

```
{
  "current": 4,
  "data": [ {
    "arch": "x86_64",
    "create_at": 1638841805439,
    "description": "AI inference application development, preconfigured ModelBox and AI engine LibTorch,
only SSH connection supported.",
    "dev_services": [ "AI_FLOW", "SSH" ],
    "id": "e1a07296-22a8-4f05-8bc8-e936c8e54103",
    "name": "modelbox1.3.0-libtorch1.9.1-cuda10.2-cudnn8-euler2.9.6",
    "resource_categories": [ "GPU" ],
    "service_type": "TRAIN",
    "status": "ACTIVE",
    "swr_path": "swr.xxx.com/atelier/modelarts-modelbox-libtorch-gpu-x86:1.3.0-20221027202714-160a680",
    "tag": "1.3.0-20221027202714-160a680",
    "type": "BUILD_IN",
    "update_at": 1638234504492,
    "workspace_id": "0"
  }, {
    "arch": "x86_64",
    "create_at": 1638841805439,
    "description": "CPU and GPU general algorithm development and training, preconfigured with AI engine
PyTorch1.8",
    "dev_services": [ "NOTEBOOK", "SSH" ],
    "id": "278e88d1-5b71-4766-8502-b3ba72e824d9",
    "name": "pytorch1.8-cuda10.2-cudnn7-ubuntu18.04",
    "resource_categories": [ "GPU", "CPU" ],
    "service_type": "COMMON",
    "status": "ACTIVE",
    "swr_path": "swr.xxx.com/atelier/pytorch_1_8:pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-
x86_64-20220926104358-041ba2e",
    "tag": "pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64-20220926104358-041ba2e",
    "type": "BUILD_IN",
```

```
"update_at" : 1638234504492,  
"workspace_id" : "0"  
}],  
"pages" : 54,  
"size" : 2,  
"total" : 107  
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.18 Registering a Custom Image

Function

Register a custom image with ModelArts Image Management.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v1/{project_id}/images

Table 4-109 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 4-110 Request body parameters

Parameter	Mandatory	Type	Description
arch	No	String	Processor architecture supported by the image. Options: <ul style="list-style-type: none"> • X86_64: x86 architecture • AARCH64: Arm architecture
description	No	String	Image description with a maximum of 512 characters.
origin	No	String	Image source, which defaults to CUSTOMIZE . This parameter is optional. Enums: <ul style="list-style-type: none"> • CUSTOMIZE: custom image • IMAGE_SAVE: image saved using a development environment instance
resource_category	No	Array of strings	Flavors supported by the image. Options: <ul style="list-style-type: none"> • CPU • GPU • ASCEND
service_type	No	String	Supported image types. Options: <ul style="list-style-type: none"> • COMMON: common image • INFERENCE: image used for inference • TRAIN: image used for training • DEV: image used for development and debugging • UNKNOWN: image whose supported services are not specified

Parameter	Mandatory	Type	Description
services	No	Array of strings	Services supported by the image. Enums: <ul style="list-style-type: none"> • NOTEBOOK: You can access a notebook instance using HTTPS. • SSH: You can remotely access a notebook instance from a local IDE through SSH.
swr_path	No	String	SWR image address
visibility	No	String	Image visibility. Options: <ul style="list-style-type: none"> • PRIVATE: private image • PUBLIC: All users can perform read-only operations based on the image ID.
workspace_id	No	String	Workspace ID. If no workspaces are available, the default value is 0 .

Response Parameters

Status code: 200

Table 4-111 Response body parameters

Parameter	Type	Description
arch	String	Processor architecture supported by the image. Enums: <ul style="list-style-type: none"> • X86_64: x86 architecture • AARCH64: Arm architecture
create_at	Long	Specifies the time (UTC ms) when the image is created.
description	String	Image description with a maximum of 512 characters
dev_services	Array of strings	Services supported by the image. Enums: <ul style="list-style-type: none"> • NOTEBOOK: You can access a notebook instance using HTTPS. • SSH: You can remotely access a notebook instance from a local IDE through SSH.

Parameter	Type	Description
id	String	ID of the image used for creating development environment instances. The ID is in Universally Unique Identifier (UUID) format. For details, see Querying Supported Images .
name	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)
namespace	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.
origin	String	Image source, which defaults to CUSTOMIZE . This parameter is optional. Enums: <ul style="list-style-type: none"> ● CUSTOMIZE: custom image ● IMAGE_SAVE: image saved using a development environment instance
resource_categories	Array of strings	Flavors supported by the image. Enums: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND
service_type	String	Supported image types. Options: <ul style="list-style-type: none"> ● COMMON: common image ● INFERENCE: image used for inference ● TRAIN: image used for training ● DEV: image used for development and debugging ● UNKNOWN: image whose supported services are not specified
size	Long	Specifies the image size, in KB.

Parameter	Type	Description
status	String	Image status. Options: <ul style="list-style-type: none"> • INIT: The image is being initialized. • CREATING: The image is being saved. In this case, the notebook instance is unavailable. • CREATE_FAILED: Saving the image failed. • ERROR: An error occurs. • DELETED: The image has been deleted. • ACTIVE: The image has been saved, which you can view on the SWR console and use to create notebook instances.
status_message	String	Build information during image saving
support_resource_categories	Array of strings	Flavors supported by the image. Options: <ul style="list-style-type: none"> • CPU • GPU • ASCEND
swr_path	String	SWR image address
tag	String	Image tag
type	String	Image type. Options: <ul style="list-style-type: none"> • BUILD_IN: built-in system image • DEDICATED: private image
update_at	Long	Specifies the time (UTC ms) when the image was last updated.
visibility	String	Image visibility. Enums: <ul style="list-style-type: none"> • PRIVATE: private image • PUBLIC: All users can perform read-only operations based on the image ID.
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .

Example Requests

The following is an example of how to register a custom image whose resource type is **CPU** and architecture is **X86_64**.

```
{
  "description": "",
  "resource_category": [ "CPU" ],
  "arch": "X86_64",
  "swr_path": "swr.xxx.com/op_svc_modelarts_container2/pytorch_1_8:train-pytorch_1.8.0-cuda_10.2-py_3.7"
}
```


Example Responses

Status code: 200

OK

```
{
  "arch": "x86_64",
  "create_at": 1671708630448,
  "description": "",
  "dev_services": [ "NOTEBOOK", "SSH" ],
  "id": "708ca95d-c601-4dc7-86b9-670adfd5e818",
  "name": "pytorch_1_8",
  "namespace": "op_svc_modelarts_container2",
  "origin": "CUSTOMIZE",
  "resource_categories": [ "CPU" ],
  "service_type": "UNKNOWN",
  "size": 3376133259,
  "status": "ACTIVE",
  "swr_path": "swr.xxx.com/op_svc_modelarts_container2/pytorch_1_8:train-pytorch_1.8.0-cuda_10.2-py_3.7",
  "tag": "train-pytorch_1.8.0-cuda_10.2-py_3.7",
  "type": "DEDICATED",
  "update_at": 1671708630448,
  "visibility": "PRIVATE",
  "workspace_id": "0"
}
```

Status Codes

Status Code	Description
200	OK
201	Created
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.19 Obtaining User Image Groups

Function

Obtain the overview of user image information. The image name is used as the aggregated information.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/images/group

Table 4-112 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 4-113 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)
name_fuzzy_match	No	Boolean	Whether the image name is used for fuzzy match. The default value is true .
namespace	No	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.
type	No	String	Image type. Options: <ul style="list-style-type: none"> • BUILD_IN: built-in system image • DEDICATED: private image
workspace_id	No	String	Workspace ID. If no workspaces are available, the default value is 0 .

Request Parameters

None

Response Parameters

Status code: 200

Table 4-114 Response body parameters

Parameter	Type	Description
current	Integer	Current page number.
data	Array of ImageGroup objects	Indicates the data.
pages	Integer	Total number of pages
size	Integer	Number of records on each page
total	Long	Total number of records

Table 4-115 ImageGroup

Parameter	Type	Description
name	String	The image name.
create_at	Long	Specifies the time (UTC ms) when the image is created.
namespace	String	Mirror the SWR organization described.
update_at	Long	Specifies the time (UTC ms) when the image was last updated.
version_count	Integer	Specifies the number of image versions.

Example Requests

GET https://{endpoint}/v1/{project_id}/images/group

Example Responses

Status code: 200

OK

```
{
  "current" : 1,
  "data" : [ {
    "create_at" : 1652878011643,
    "name" : "123",
    "namespace" : "cnnorth7-infer-model-dev",
    "update_at" : 1652878531791,
    "version_count" : 1
  }, {
    "create_at" : 1671708630448,
```

```
"name" : "pytorch_1_8",  
"namespace" : "op_svc_modelarts_container2",  
"update_at" : 1671708630448,  
"version_count" : 1  
}, {  
"create_at" : 1671093486722,  
"name" : "mock-service-python",  
"namespace" : "mock-service1",  
"update_at" : 1671093486722,  
"version_count" : 1  
}],  
"pages" : 1,  
"size" : 3,  
"total" : 3  
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.20 Obtaining Details of an Image

Function

Obtain the details of an image.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/images/{id}

Table 4-116 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Image ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

Status code: 200

Table 4-117 Response body parameters

Parameter	Type	Description
arch	String	Processor architecture supported by the image. Enums: <ul style="list-style-type: none"> • X86_64: x86 architecture • AARCH64: Arm architecture
create_at	Long	Specifies the time (UTC ms) when the image is created.
description	String	Image description with a maximum of 512 characters
dev_services	Array of strings	Services supported by the image. Enums: <ul style="list-style-type: none"> • NOTEBOOK: You can access a notebook instance using HTTPS. • SSH: You can remotely access a notebook instance from a local IDE through SSH.
id	String	ID of the image used for creating development environment instances. The ID is in Universally Unique Identifier (UUID) format. For details, see Querying Supported Images .
name	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)

Parameter	Type	Description
namespace	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.
origin	String	Image source, which defaults to CUSTOMIZE . This parameter is optional. Enums: <ul style="list-style-type: none"> ● CUSTOMIZE: custom image ● IMAGE_SAVE: image saved using a development environment instance
resource_categories	Array of strings	Flavors supported by the image. Enums: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND
service_type	String	Supported image types. Options: <ul style="list-style-type: none"> ● COMMON: common image ● INFERENCE: image used for inference ● TRAIN: image used for training ● DEV: image used for development and debugging ● UNKNOWN: image whose supported services are not specified
size	Long	Specifies the image size, in KB.
status	String	Image status. Options: <ul style="list-style-type: none"> ● INIT: The image is being initialized. ● CREATING: The image is being saved. In this case, the notebook instance is unavailable. ● CREATE_FAILED: Saving the image failed. ● ERROR: An error occurs. ● DELETED: The image has been deleted. ● ACTIVE: The image has been saved, which you can view on the SWR console and use to create notebook instances.
status_message	String	Build information during image saving
support_resource_categories	Array of strings	Flavors supported by the image. Options: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND

Parameter	Type	Description
swr_path	String	SWR image address
tag	String	Image tag
type	String	Image type. Options: <ul style="list-style-type: none"> ● BUILD_IN: built-in system image ● DEDICATED: private image
update_at	Long	Specifies the time (UTC ms) when the image was last updated.
visibility	String	Image visibility. Enums: <ul style="list-style-type: none"> ● PRIVATE: private image ● PUBLIC: All users can perform read-only operations based on the image ID.
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .

Example Requests

```
GET https://{endpoint}/v1/{project_id}/images/{id}
```

Example Responses

Status code: 200

OK

```
{
  "arch": "x86_64",
  "create_at": 1638234504492,
  "description": "CPU and GPU general algorithm development and training, preconfigured with AI engine PyTorch1.8",
  "dev_services": [ "NOTEBOOK", "SSH" ],
  "id": "278e88d1-5b71-4766-8502-b3ba72e824d9",
  "name": "pytorch1.8-cuda10.2-cudnn7-ubuntu18.04",
  "resource_categories": [ "GPU", "CPU" ],
  "service_type": "COMMON",
  "status": "ACTIVE",
  "swr_path": "swr.xxx.com/atelier/pytorch_1_8:pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64-20220926104358-041ba2e",
  "tag": "pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64-20220926104358-041ba2e",
  "type": "BUILD_IN",
  "update_at": 1638234504492,
  "workspace_id": "0"
}
```

Status Codes

Status Code	Description
200	OK

Status Code	Description
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

4.21 Deleting an Image

Function

Delete an image object. For a private image, you can also delete the image content from SWR using parameters.

Constraints

None

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v1/{project_id}/images/{id}

Table 4-118 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Image ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 4-119 Query Parameters

Parameter	Mandatory	Type	Description
force	No	Boolean	Image content to be deleted from SWR. This parameter is valid only for private images.

Request Parameters

None

Response Parameters

Status code: 200

Table 4-120 Response body parameters

Parameter	Type	Description
arch	String	Processor architecture supported by the image. Enums: <ul style="list-style-type: none"> ● X86_64: x86 architecture ● AARCH64: Arm architecture
create_at	Long	Specifies the time (UTC ms) when the image is created.
description	String	Image description with a maximum of 512 characters
dev_services	Array of strings	Services supported by the image. Enums: <ul style="list-style-type: none"> ● NOTEBOOK: You can access a notebook instance using HTTPS. ● SSH: You can remotely access a notebook instance from a local IDE through SSH.
id	String	ID of the image used for creating development environment instances. The ID is in Universally Unique Identifier (UUID) format. For details, see Querying Supported Images .
name	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)
namespace	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.

Parameter	Type	Description
origin	String	Image source, which defaults to CUSTOMIZE . This parameter is optional. Enums: <ul style="list-style-type: none"> • CUSTOMIZE: custom image • IMAGE_SAVE: image saved using a development environment instance
resource_categories	Array of strings	Flavors supported by the image. Enums: <ul style="list-style-type: none"> • CPU • GPU • ASCEND
service_type	String	Supported image types. Options: <ul style="list-style-type: none"> • COMMON: common image • INFERENCE: image used for inference • TRAIN: image used for training • DEV: image used for development and debugging • UNKNOWN: image whose supported services are not specified
size	Long	Specifies the image size, in KB.
status	String	Image status. Options: <ul style="list-style-type: none"> • INIT: The image is being initialized. • CREATING: The image is being saved. In this case, the notebook instance is unavailable. • CREATE_FAILED: Saving the image failed. • ERROR: An error occurs. • DELETED: The image has been deleted. • ACTIVE: The image has been saved, which you can view on the SWR console and use to create notebook instances.
status_message	String	Build information during image saving
support_res_categories	Array of strings	Flavors supported by the image. Options: <ul style="list-style-type: none"> • CPU • GPU • ASCEND
swr_path	String	SWR image address
tag	String	Image tag

Parameter	Type	Description
type	String	Image type. Options: <ul style="list-style-type: none"> ● BUILD_IN: built-in system image ● DEDICATED: private image
update_at	Long	Specifies the time (UTC ms) when the image was last updated.
visibility	String	Image visibility. Enums: <ul style="list-style-type: none"> ● PRIVATE: private image ● PUBLIC: All users can perform read-only operations based on the image ID.
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .

Example Requests

```
DELETE https://{endpoint}/v1/{project_id}/images/{id}
```

Example Responses

Status code: 200

OK

```
{
  "arch": "x86_64",
  "create_at": 1671093486722,
  "description": "",
  "dev_services": [ "NOTEBOOK", "SSH" ],
  "id": "c9ab2b2f-edda-4556-bdbb-494e868d043c",
  "name": "mock-service-python",
  "namespace": "mock-service1",
  "origin": "CUSTOMIZE",
  "resource_categories": [ "CPU" ],
  "service_type": "UNKNOWN",
  "size": 387840321,
  "status": "DELETED",
  "swr_path": "swr.xxx.com/mock-service1/mock-service-python:0.0.17",
  "tag": "0.0.17",
  "type": "DEDICATED",
  "update_at": 1671093486722,
  "visibility": "PRIVATE",
  "workspace_id": "0"
}
```

Status Codes

Status Code	Description
200	OK
204	No Content

Status Code	Description
401	Unauthorized
403	Forbidden

Error Codes

See [Error Codes](#).

5 Training Management

5.1 Creating an Algorithm

Function

This API is used to create an algorithm.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/algorithms

Table 5-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 5-2 Request body parameters

Parameter	Mandatory	Type	Description
metadata	No	metadata object	Algorithm metadata, which describes basic algorithm information.

Parameter	Mandatory	Type	Description
job_config	No	job_config object	Algorithm configuration, such as the boot file.
resource_requirements	No	Array of resource_requirements objects	Algorithm resource constraints. This parameter is optional. After this parameter is set, the console filters available public resource pools when the algorithm is used in training jobs.
advanced_config	No	advanced_config object	Advanced algorithm policy: <ul style="list-style-type: none"> • auto_search

Table 5-3 metadata

Parameter	Mandatory	Type	Description
id	No	Integer	Algorithm UUID. You do not need to set this parameter when creating an algorithm.
name	Yes	String	Algorithm name. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).
description	No	String	Description of the algorithm. The value is a string of [0, 256] characters. The default value is NULL.
workspace_id	No	String	Workspace where a specified algorithm is located. The default value is 0 . The value 0 indicates the default workspace.
ai_project	No	String	AI project to which a specified algorithm belongs. The default value is default-ai-project . The AI project has been brought offline. Ignore it.

Table 5-4 job_config

Parameter	Mandatory	Type	Description
code_dir	No	String	Algorithm code directory, for example, <code>/usr/app/</code> . This parameter must be used together with boot_file .
boot_file	No	String	Code boot file of the algorithm, which needs to be stored in the code directory, for example, <code>/usr/app/boot.py</code> . This parameter must be used together with code_dir .
command	No	String	Container startup command of a custom image algorithm.
parameters	No	Array of Parameter objects	Running parameter of an algorithm.
inputs	No	Array of inputs objects	Data input of an algorithm.
outputs	No	Array of outputs objects	Data output of an algorithm.
engine	No	engine object	Algorithm engine.
parameters_customization	No	Boolean	Whether the algorithm allows hyperparameter customization during training job creation.

Table 5-5 Parameter

Parameter	Mandatory	Type	Description
name	No	String	Parameter name.
value	No	String	Parameter value.
description	No	String	Parameter description.
constraint	No	constraint object	Parameter constraint.
internationalization	No	internationalization object	Internationalization description.

Table 5-6 constraint

Parameter	Mandatory	Type	Description
type	No	String	Parameter type.
editable	No	Boolean	Whether the parameter is editable.
required	No	Boolean	Whether the parameter is mandatory.
sensitive	No	Boolean	Whether the parameter is sensitive This function is not implemented currently.
valid_type	No	String	Valid type.
valid_range	No	Array of strings	Valid range.

Table 5-7 i18n_description

Parameter	Mandatory	Type	Description
language	No	String	Language. Options: <ul style="list-style-type: none"> • zh-cn: Chinese • en-us: English
description	No	String	Description.

Table 5-8 inputs

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the data input channel.
description	No	String	Description of the data input channel.
remote_constraints	No	Array of remote_constraints objects	Data input constraint.

Table 5-9 remote_constraints

Parameter	Mandatory	Type	Description
data_type	No	String	Data input type. The data storage location (OBS) and ModelArts dataset are supported.
attributes	No	Array of Map<String,String> objects	Attributes when the data input type is a dataset. Enums: <ul style="list-style-type: none"> • data_format: data format • data_segmentation: data segmentation • dataset_type: data labeling

Table 5-10 outputs

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the data output channel.
description	No	String	Description of the data output channel.

Table 5-11 engine

Parameter	Mandatory	Type	Description
engine_id	No	String	Engine ID selected for an algorithm.
engine_name	No	String	Engine version name selected for an algorithm. If engine_id is specified, leave this parameter blank.
engine_version	No	String	Engine version name selected for an algorithm. If engine_id is specified, leave this parameter blank.
image_url	No	String	Custom image URL selected by an algorithm.

Table 5-12 resource_requirements

Parameter	Mandatory	Type	Description
key	No	String	Resource constraint. The options are as follows: <ul style="list-style-type: none"> flavor_type indicates the resource type. The value can be CPU, GPU, or Ascend. device_distributed_mode: indicates whether to support multi-card training. The value can be multiple (supported) or singular (not supported). host_distributed_mode: indicates whether distributed training is supported. The value can be multiple (supported) or singular (not supported).
values	No	Array of strings	Value of the resource constraint key.
operator	No	String	Relationship between keys and values. Currently, only in is supported. For example, flavor_type in [CPU,GPU] .

Table 5-13 advanced_config

Parameter	Mandatory	Type	Description
auto_search	No	auto_search object	Hyperparameter search policy.

Table 5-14 auto_search

Parameter	Mandatory	Type	Description
skip_search_params	No	String	Hyperparameter parameters that need to be skipped.
reward_attrs	No	Array of reward_attrs objects	List of search metrics.

Parameter	Mandatory	Type	Description
search_params	No	Array of search_params objects	Search parameters.
algo_configs	No	Array of algo_configs objects	Search algorithm configurations.

Table 5-15 reward_attrs

Parameter	Mandatory	Type	Description
name	No	String	Metric name.
mode	No	String	Search mode. <ul style="list-style-type: none"> • max: A larger metric value is preferred. • min: A smaller metric value is preferred.
regex	No	String	Regular expression of a metric.

Table 5-16 search_params

Parameter	Mandatory	Type	Description
name	No	String	Hyperparameter name.
param_type	No	String	Parameter type. <ul style="list-style-type: none"> • continuous: The hyperparameter is of the continuous type. When an algorithm is used in a training job, continuous hyperparameters are displayed as text boxes on the console. • discrete: The hyperparameter is of the discrete type. When an algorithm is used in a training job, discrete hyperparameters are displayed as drop-down lists on the console.

Parameter	Mandatory	Type	Description
lower_bound	No	String	Lower bound of the hyperparameter.
upper_bound	No	String	Upper bound of the hyperparameter.
discrete_points_num	No	String	Number of discrete points of a continuous hyperparameter.
discrete_values	No	String	List of discrete hyperparameter values.

Table 5-17 algo_configs

Parameter	Mandatory	Type	Description
name	No	String	Name of the search algorithm.
params	No	Array of AutoSearchAlgoConfigParameter objects	Search algorithm parameters.

Table 5-18 AutoSearchAlgoConfigParameter

Parameter	Mandatory	Type	Description
key	No	String	Parameter key.
value	No	String	Parameter value.
type	No	String	Parameter type.

Response Parameters

Status code: 201

Table 5-19 Response body parameters

Parameter	Type	Description
metadata	metadata object	Algorithm metadata, which describes basic algorithm information.
job_config	job_config object	Algorithm configuration, such as the boot file.

Parameter	Type	Description
resource_requirements	Array of resource_requirements objects	Algorithm resource constraint. This parameter is optional. After this parameter is set, the console filters available public resource pools when the algorithm is used in training jobs.
advanced_config	advanced_config object	Advanced algorithm policy: <ul style="list-style-type: none"> • auto_search

Table 5-20 metadata

Parameter	Type	Description
id	Integer	Algorithm UUID. You do not need to set this parameter when creating an algorithm.
name	String	Algorithm name. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).
description	String	Description of the algorithm. The value is a string of [0, 256] characters. The default value is NULL.
workspace_id	String	Workspace where a specified algorithm is located. The default value is 0 . The value 0 indicates the default workspace.
ai_project	String	AI project to which a specified algorithm belongs. The default value is default-ai-project . The AI project has been brought offline. Ignore it.
user_name	String	Username.
domain_id	String	Domain ID of a user.
source	String	Algorithm source.
api_version	String	Algorithm API version, which identifies the old and new ones.
is_valid	String	Algorithm availability.
state	String	Algorithm state.
tags	Array of Map<String,String> objects	Algorithm tags.
attr_list	Array of strings	Algorithm attribute list.

Parameter	Type	Description
version_num	Integer	Number of algorithm versions. The default value is 0 .
size	Integer	Algorithm size.
create_time	Long	Timestamp when the algorithm is created.
update_time	Long	Timestamp when the algorithm is updated.

Table 5-21 job_config

Parameter	Type	Description
code_dir	String	Algorithm code directory, for example, <code>/usr/app/</code> . This parameter must be used together with boot_file .
boot_file	String	Code boot file of the algorithm, which must be stored in the code directory, for example, <code>/usr/app/boot.py</code> . This parameter must be used with code_dir .
command	String	Container startup command of a custom image algorithm.
parameters	Array of Parameter objects	Running parameter of an algorithm.
inputs	Array of inputs objects	Data input of an algorithm.
outputs	Array of outputs objects	Data output of an algorithm.
engine	engine object	Algorithm engine.
code_tree	Array of code_tree objects	Algorithm directory tree
parameters_customization	Boolean	Whether the algorithm allows hyperparameter customization during training job creation.

Table 5-22 Parameter

Parameter	Type	Description
name	String	Parameter name.

Parameter	Type	Description
value	String	Parameter value.
description	String	Parameter description.
constraint	constraint object	Parameter constraint.
i18n_description	i18n_description object	Internationalization description.

Table 5-23 constraint

Parameter	Type	Description
type	String	Parameter type.
editable	Boolean	Whether the parameter is editable.
required	Boolean	Whether the parameter is mandatory.
sensitive	Boolean	Whether the parameter is sensitive This function is not implemented currently.
valid_type	String	Valid type.
valid_range	Array of strings	Valid range.

Table 5-24 i18n_description

Parameter	Type	Description
language	String	Language. Options: <ul style="list-style-type: none"> • zh-cn: Chinese • en-us: English
description	String	Description.

Table 5-25 inputs

Parameter	Type	Description
name	String	Name of the data input channel.
description	String	Description of the data input channel.

Parameter	Type	Description
remote_constraints	Array of remote_constraints objects	Data input constraint.

Table 5-26 remote_constraints

Parameter	Type	Description
data_type	String	Data input type, including the data storage location and dataset.
attributes	Array of Map<String,String> objects	Attributes when the data input type is a dataset. Enums: <ul style="list-style-type: none"> • data_format: data format • data_segmentation: data segmentation • dataset_type: data labeling

Table 5-27 outputs

Parameter	Type	Description
name	String	Name of the data output channel.
description	String	Description of the data output channel.

Table 5-28 engine

Parameter	Type	Description
engine_id	String	Engine ID selected for an algorithm.
engine_name	String	Engine version name selected for an algorithm. If engine_id is specified, leave this parameter blank.
engine_version	String	Engine version name selected for an algorithm. If engine_id is specified, leave this parameter blank.
image_url	String	Custom image URL selected by an algorithm.

Table 5-29 code_tree

Parameter	Type	Description
name	String	Name of the current directory in the algorithm directory tree.
children	Object	Subfiles and subdirectories in the current directory of the algorithm directory tree.

Table 5-30 resource_requirements

Parameter	Type	Description
key	String	Resource constraint. The options are as follows: <ul style="list-style-type: none"> • flavor_type: flavor type, which can be CPU, Ascend, or GPU. • device_distributed_mode: whether to support multi-card training. The value can be multiple (supported) or singular (not supported). • host_distributed_mode: whether to support distributed training. The value can be multiple (supported) or singular (not supported).
value	Array of strings	Value of the resource constraint key.
operator	String	Relationship between keys and values. Currently, only in is supported. For example, flavor_type in [CPU,GPU] .

Table 5-31 advanced_config

Parameter	Type	Description
auto_search	auto_search object	Hyperparameter search policy.

Table 5-32 auto_search

Parameter	Type	Description
skip_search_parameters	String	Hyperparameter parameters that need to be skipped.

Parameter	Type	Description
reward_attrs	Array of reward_attrs objects	List of search metrics.
search_params	Array of search_params objects	Search parameters.
algo_configs	Array of algo_configs objects	Search algorithm configurations.

Table 5-33 reward_attrs

Parameter	Type	Description
name	String	Metric name.
mode	String	Search mode. <ul style="list-style-type: none"> • max: A larger metric value is preferred. • min: A smaller metric value is preferred.
regex	String	Regular expression of a metric.

Table 5-34 search_params

Parameter	Type	Description
name	String	Hyperparameter name.
param_type	String	Parameter type. <ul style="list-style-type: none"> • continuous: The hyperparameter is of the continuous type. When an algorithm is used in a training job, continuous hyperparameters are displayed as text boxes on the console. • discrete: The hyperparameter is of the discrete type. When an algorithm is used in a training job, discrete hyperparameters are displayed as drop-down lists on the console.
lower_bound	String	Lower bound of the hyperparameter.
upper_bound	String	Upper bound of the hyperparameter.
discrete_points_num	String	Number of discrete points of a continuous hyperparameter.

Parameter	Type	Description
discrete_values	String	List of discrete hyperparameter values.

Table 5-35 algo_configs

Parameter	Type	Description
name	String	Name of the search algorithm.
params	Array of AutoSearchAlgoConfigParameter objects	Search algorithm parameters.

Table 5-36 AutoSearchAlgoConfigParameter

Parameter	Type	Description
key	String	Parameter key.
value	String	Parameter value.
type	String	Parameter type.

Example Requests

The following is an example of how to create an algorithm whose name is **TestModelArtsAlgorithm** and description is **This is a ModelArts algorithm**.

```
POST https://endpoint/v2/{project_id}/algorithms
{
  "metadata": {
    "name": "TestModelArtsAlgorithm",
    "description": "This is a ModelArts algorithm"
  },
  "job_config": {
    "code_dir": "/algo-test/pytorch/work1/code/",
    "boot_file": "/algo-test/pytorch/work1/code/test-pytorch.py",
    "parameters": [ {
      "name": "test-parameter",
      "value": "10",
      "constraint": {
        "type": "String",
        "editable": true,
        "required": false,
        "sensitive": false,
        "valid_type": "None",
        "valid_range": [ ]
      }
    }
  ],
  "parameters_customization": true,
  "inputs": [ {
```

```

"name": "data_url",
"description": "data source."
}],
"outputs": [ {
"name": "train_url",
"description": "model output."
}],
"engine": {
"engine_name": "PyTorch",
"engine_version": "PyTorch-1.3.0-python3.6"
}
}
}

```

Example Responses

Status code: 201

ok

```

{
"metadata": {
"id": "2e5451fe-913f-4492-821a-2981031382f7",
"name": "TestModelArtsalgorithm",
"description": "This is a ModelArts algorithm",
"create_time": 1636600721742,
"workspace_id": "0",
"ai_project": "default-ai-project",
"user_name": "",
"domain_id": "xxxxxxxxxxxxxxxxxxxxxxxxxxxx",
"source": "custom",
"api_version": "",
"is_valid": true,
"state": "",
"size": 4791,
"tags": null,
"attr_list": null,
"version_num": 0,
"update_time": 0
},
"job_config": {
"code_dir": "/algo-test/pytorch/work1/code/",
"boot_file": "/algo-test/pytorch/work1/code/test-pytorch.py",
"command": "",
"parameters": [ {
"name": "test-parameter",
"description": "",
"i18n_description": null,
"value": "10",
"constraint": {
"type": "String",
"editable": true,
"required": false,
"sensitive": false,
"valid_type": "None",
"valid_range": [ ]
}
}
],
"parameters_customization": true,
"inputs": [ {
"name": "data_url",
"description": "name to translate"
}],
"outputs": [ {
"name": "train_url",
"description": "name to translate"
}],
"engine": {
"engine_id": "pytorch-cp36-1.3.0",

```

```

"engine_name" : "PyTorch",
"engine_version" : "PyTorch-1.3.0-python3.6"
},
"code_tree" : {
  "name" : "code/",
  "children" : [ {
    "name" : "test-pytorch.py"
  } ]
}
},
"resource_requirements" : null,
"advanced_config" : { }
}

```

Status Codes

Status Code	Description
201	ok

Error Codes

See [Error Codes](#).

5.2 Querying the Algorithm List

Function

This API is used to query the algorithm list.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/algorithms

Table 5-37 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 5-38 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset for querying algorithms. The minimum value is 0 . For example, if this parameter is set to 1 , the query starts from the second one.
limit	No	Integer	Limit of algorithms to be queried. The value ranges from 1 to 50.
sort_by	No	String	Metric for sorting algorithms to be queried. create_time is used by default.
order	No	String	Order of queried algorithms. The default value is desc , indicating that queried algorithms are sorted in descending order. You can also select asc to sort the records in ascending order.
group_by	No	String	Condition for grouping the algorithms to be queried.
searches	No	String	Filter criteria for algorithms to be queried, for example, fuzzy match by the algorithm name.
workspace_id	No	String	Workspace ID.

Request Parameters

None

Response Parameters

Status code: 200

Table 5-39 Response body parameters

Parameter	Type	Description
total	Integer	Total number of queried algorithms of the current user.
count	Integer	Total number of algorithms that meet the search criteria of the current user.

Parameter	Type	Description
limit	Integer	Maximum number of queried algorithms of the current user.
offset	Integer	Offset of all algorithm queries of the current user.
sort_by	String	Fields used to sort queried algorithms of the current user.
order	String	Order of queried algorithms of the current user. The default value is desc , indicating the descending order. You can also set this parameter to asc , indicating the ascending order.
group_by	String	Grouping mode of queried algorithms of the current user.
items	Array of AlgorithmResponse objects	Details about all algorithms that meet the search criteria of the current user.

Table 5-40 AlgorithmResponse

Parameter	Type	Description
metadata	metadata object	Algorithm metadata, which describes basic algorithm information.
job_config	job_config object	Algorithm configuration, such as the boot file.
resource_requirements	Array of resource_requirements objects	Algorithm resource constraint. This parameter is optional. After this parameter is set, the console filters available public resource pools when the algorithm is used in training jobs.
advanced_config	advanced_config object	Advanced algorithm policy: <ul style="list-style-type: none"> • auto_search

Table 5-41 metadata

Parameter	Type	Description
id	Integer	Algorithm UUID. You do not need to set this parameter when creating an algorithm.

Parameter	Type	Description
name	String	Algorithm name. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).
description	String	Description of the algorithm. The value is a string of [0, 256] characters. The default value is NULL.
workspace_id	String	Workspace where a specified algorithm is located. The default value is 0 . The value 0 indicates the default workspace.
ai_project	String	AI project to which a specified algorithm belongs. The default value is default-ai-project . The AI project has been brought offline. Ignore it.
user_name	String	Username.
domain_id	String	Domain ID of a user.
source	String	Algorithm source.
api_version	String	Algorithm API version, which identifies the old and new ones.
is_valid	String	Algorithm availability.
state	String	Algorithm state.
tags	Array of Map<String,String> objects	Algorithm tags.
attr_list	Array of strings	Algorithm attribute list.
version_num	Integer	Number of algorithm versions. The default value is 0 .
size	Integer	Algorithm size.
create_time	Long	Timestamp when the algorithm is created.
update_time	Long	Timestamp when the algorithm is updated.

Table 5-42 job_config

Parameter	Type	Description
code_dir	String	Algorithm code directory, for example, /usr/app/ . This parameter must be used together with boot_file .

Parameter	Type	Description
boot_file	String	Code boot file of the algorithm, which must be stored in the code directory, for example, <code>/usr/app/boot.py</code> . This parameter must be used with <code>code_dir</code> .
command	String	Container startup command of a custom image algorithm.
parameters	Array of Parameter objects	Running parameter of an algorithm.
inputs	Array of inputs objects	Data input of an algorithm.
outputs	Array of outputs objects	Data output of an algorithm.
engine	engine object	Algorithm engine.
code_tree	Array of code_tree objects	Algorithm directory tree
parameters_customization	Boolean	Whether the algorithm allows hyperparameter customization during training job creation.

Table 5-43 Parameter

Parameter	Type	Description
name	String	Parameter name.
value	String	Parameter value.
description	String	Parameter description.
constraint	constraint object	Parameter constraint.
internationalization	internationalization object	Internationalization description.

Table 5-44 constraint

Parameter	Type	Description
type	String	Parameter type.
editable	Boolean	Whether the parameter is editable.

Parameter	Type	Description
required	Boolean	Whether the parameter is mandatory.
sensitive	Boolean	Whether the parameter is sensitive This function is not implemented currently.
valid_type	String	Valid type.
valid_range	Array of strings	Valid range.

Table 5-45 i18n_description

Parameter	Type	Description
language	String	Language. Options: <ul style="list-style-type: none"> ● zh-cn: Chinese ● en-us: English
description	String	Description.

Table 5-46 inputs

Parameter	Type	Description
name	String	Name of the data input channel.
description	String	Description of the data input channel.
remote_constraints	Array of remote_constraints objects	Data input constraint.

Table 5-47 remote_constraints

Parameter	Type	Description
data_type	String	Data input type, including the data storage location and dataset.
attributes	Array of Map<String,String> objects	Attributes when the data input type is a dataset. Enums: <ul style="list-style-type: none"> ● data_format: data format ● data_segmentation: data segmentation ● dataset_type: data labeling

Table 5-48 outputs

Parameter	Type	Description
name	String	Name of the data output channel.
description	String	Description of the data output channel.

Table 5-49 engine

Parameter	Type	Description
engine_id	String	Engine ID selected for an algorithm.
engine_name	String	Engine version name selected for an algorithm. If engine_id is specified, leave this parameter blank.
engine_version	String	Engine version name selected for an algorithm. If engine_id is specified, leave this parameter blank.
image_url	String	Custom image URL selected by an algorithm.

Table 5-50 code_tree

Parameter	Type	Description
name	String	Name of the current directory in the algorithm directory tree.
children	Object	Subfiles and subdirectories in the current directory of the algorithm directory tree.

Table 5-51 resource_requirements

Parameter	Type	Description
key	String	Resource constraint. The options are as follows: <ul style="list-style-type: none"> • flavor_type: flavor type, which can be CPU, Ascend, or GPU. • device_distributed_mode: whether to support multi-card training. The value can be multiple (supported) or singular (not supported). • host_distributed_mode: whether to support distributed training. The value can be multiple (supported) or singular (not supported).

Parameter	Type	Description
value	Array of strings	Value of the resource constraint key.
operator	String	Relationship between keys and values. Currently, only in is supported. For example, flavor_type in [CPU,GPU] .

Table 5-52 advanced_config

Parameter	Type	Description
auto_search	auto_search object	Hyperparameter search policy.

Table 5-53 auto_search

Parameter	Type	Description
skip_search_params	String	Hyperparameter parameters that need to be skipped.
reward_attrs	Array of reward_attrs objects	List of search metrics.
search_params	Array of search_params objects	Search parameters.
algo_configs	Array of algo_configs objects	Search algorithm configurations.

Table 5-54 reward_attrs

Parameter	Type	Description
name	String	Metric name.
mode	String	Search mode. <ul style="list-style-type: none"> • max: A larger metric value is preferred. • min: A smaller metric value is preferred.
regex	String	Regular expression of a metric.

Table 5-55 search_params

Parameter	Type	Description
name	String	Hyperparameter name.
param_type	String	Parameter type. <ul style="list-style-type: none"> • continuous: The hyperparameter is of the continuous type. When an algorithm is used in a training job, continuous hyperparameters are displayed as text boxes on the console. • discrete: The hyperparameter is of the discrete type. When an algorithm is used in a training job, discrete hyperparameters are displayed as drop-down lists on the console.
lower_bound	String	Lower bound of the hyperparameter.
upper_bound	String	Upper bound of the hyperparameter.
discrete_points_num	String	Number of discrete points of a continuous hyperparameter.
discrete_values	String	List of discrete hyperparameter values.

Table 5-56 algo_configs

Parameter	Type	Description
name	String	Name of the search algorithm.
params	Array of AutoSearchAlgorithmConfigParameter objects	Search algorithm parameters.

Table 5-57 AutoSearchAlgorithmConfigParameter

Parameter	Type	Description
key	String	Parameter key.
value	String	Parameter value.
type	String	Parameter type.

Example Requests

The following shows how to query all algorithms in jobs whose names contain **TestModelArtsAlgorithm** and maximum number of algorithms is set to **1**.

```
GET https://endpoint/v2/{project_id}/algorithms?limit=1&searches=name%3ATestModelArtsAlgorithm
```

Example Responses

Status code: 200

ok

```
{
  "total": 1,
  "count": 1,
  "limit": 1,
  "offset": 0,
  "sort_by": "create_time",
  "order": "desc",
  "group_by": "",
  "items": [ {
    "metadata": {
      "id": "2e5451fe-913f-4492-821a-2981031382f7",
      "name": "TestModelArtsAlgorithm",
      "description": "This is a ModelArts algorithm",
      "create_time": 1636600721742,
      "workspace_id": "0",
      "ai_project": "default-ai-project",
      "user_name": "",
      "domain_id": "xxxxxxxxxxxxxxxxxxxxxxxxxxxx",
      "source": "custom",
      "api_version": "",
      "is_valid": true,
      "state": "",
      "size": 4791,
      "tags": null,
      "attr_list": null,
      "version_num": 0,
      "update_time": 0
    },
    "job_config": {
      "code_dir": "/algo-test/pytorch/work1/code/",
      "boot_file": "/algo-test/pytorch/work1/code/test-pytorch.py",
      "command": "",
      "parameters": [ {
        "name": "test-parameter",
        "description": "",
        "i18n_description": null,
        "value": "10",
        "constraint": {
          "type": "String",
          "editable": true,
          "required": false,
          "sensitive": false,
          "valid_type": "None",
          "valid_range": [ ]
        }
      }
    ],
    "parameters_customization": true,
    "inputs": [ {
      "name": "data_url",
      "description": "name to translate"
    }
  ],
    "outputs": [ {
      "name": "train_url",
      "description": "name to translate"
    }
  ],
}
```

```

"engine" : {
  "engine_id" : "pytorch-cp36-1.3.0",
  "engine_name" : "PyTorch",
  "engine_version" : "PyTorch-1.3.0-python3.6"
},
"code_tree" : {
  "name" : "code/",
  "children" : [ {
    "name" : "test-pytorch.py"
  } ]
}
},
"resource_requirements" : null,
"advanced_config" : { }
} ]
}

```

Status Codes

Status Code	Description
200	ok

Error Codes

See [Error Codes](#).

5.3 Querying Algorithm Details

Function

This API is used to query a specified algorithm based on the algorithm ID.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/algorithms/{algorithm_id}

Table 5-58 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
algorithm_id	Yes	String	Algorithm ID.

Request Parameters

None

Response Parameters

Status code: 200

Table 5-59 Response body parameters

Parameter	Type	Description
metadata	metadata object	Algorithm metadata, which describes basic algorithm information.
job_config	job_config object	Algorithm configuration, such as the boot file.
resource_requirements	Array of resource_requirements objects	Algorithm resource constraint. This parameter is optional. After this parameter is set, the console filters available public resource pools when the algorithm is used in training jobs.
advanced_config	advanced_config object	Advanced algorithm policy: <ul style="list-style-type: none"> • auto_search

Table 5-60 metadata

Parameter	Type	Description
id	Integer	Algorithm UUID. You do not need to set this parameter when creating an algorithm.
name	String	Algorithm name. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).
description	String	Description of the algorithm. The value is a string of [0, 256] characters. The default value is NULL.
workspace_id	String	Workspace where a specified algorithm is located. The default value is 0 . The value 0 indicates the default workspace.
ai_project	String	AI project to which a specified algorithm belongs. The default value is default-ai-project . The AI project has been brought offline. Ignore it.
user_name	String	Username.
domain_id	String	Domain ID of a user.

Parameter	Type	Description
source	String	Algorithm source.
api_version	String	Algorithm API version, which identifies the old and new ones.
is_valid	String	Algorithm availability.
state	String	Algorithm state.
tags	Array of Map<String,String> objects	Algorithm tags.
attr_list	Array of strings	Algorithm attribute list.
version_num	Integer	Number of algorithm versions. The default value is 0 .
size	Integer	Algorithm size.
create_time	Long	Timestamp when the algorithm is created.
update_time	Long	Timestamp when the algorithm is updated.

Table 5-61 job_config

Parameter	Type	Description
code_dir	String	Algorithm code directory, for example, /usr/app/ . This parameter must be used together with boot_file .
boot_file	String	Code boot file of the algorithm, which must be stored in the code directory, for example, /usr/app/boot.py . This parameter must be used with code_dir .
command	String	Container startup command of a custom image algorithm.
parameters	Array of Parameter objects	Running parameter of an algorithm.
inputs	Array of inputs objects	Data input of an algorithm.
outputs	Array of outputs objects	Data output of an algorithm.
engine	engine object	Algorithm engine.

Parameter	Type	Description
code_tree	Array of code_tree objects	Algorithm directory tree
parameters_customization	Boolean	Whether the algorithm allows hyperparameter customization during training job creation.

Table 5-62 Parameter

Parameter	Type	Description
name	String	Parameter name.
value	String	Parameter value.
description	String	Parameter description.
constraint	constraint object	Parameter constraint.
i18n_description	i18n_description object	Internationalization description.

Table 5-63 constraint

Parameter	Type	Description
type	String	Parameter type.
editable	Boolean	Whether the parameter is editable.
required	Boolean	Whether the parameter is mandatory.
sensitive	Boolean	Whether the parameter is sensitive This function is not implemented currently.
valid_type	String	Valid type.
valid_range	Array of strings	Valid range.

Table 5-64 i18n_description

Parameter	Type	Description
language	String	Language. Options: <ul style="list-style-type: none"> • zh-cn: Chinese • en-us: English

Parameter	Type	Description
description	String	Description.

Table 5-65 inputs

Parameter	Type	Description
name	String	Name of the data input channel.
description	String	Description of the data input channel.
remote_constraints	Array of remote_constraints objects	Data input constraint.

Table 5-66 remote_constraints

Parameter	Type	Description
data_type	String	Data input type, including the data storage location and dataset.
attributes	Array of Map<String,String> objects	Attributes when the data input type is a dataset. Enums: <ul style="list-style-type: none"> • data_format: data format • data_segmentation: data segmentation • dataset_type: data labeling

Table 5-67 outputs

Parameter	Type	Description
name	String	Name of the data output channel.
description	String	Description of the data output channel.

Table 5-68 engine

Parameter	Type	Description
engine_id	String	Engine ID selected for an algorithm.
engine_name	String	Engine version name selected for an algorithm. If engine_id is specified, leave this parameter blank.

Parameter	Type	Description
engine_version	String	Engine version name selected for an algorithm. If engine_id is specified, leave this parameter blank.
image_url	String	Custom image URL selected by an algorithm.

Table 5-69 code_tree

Parameter	Type	Description
name	String	Name of the current directory in the algorithm directory tree.
children	Object	Subfiles and subdirectories in the current directory of the algorithm directory tree.

Table 5-70 resource_requirements

Parameter	Type	Description
key	String	Resource constraint. The options are as follows: <ul style="list-style-type: none"> • flavor_type: flavor type, which can be CPU, Ascend, or GPU. • device_distributed_mode: whether to support multi-card training. The value can be multiple (supported) or singular (not supported). • host_distributed_mode: whether to support distributed training. The value can be multiple (supported) or singular (not supported).
value	Array of strings	Value of the resource constraint key.
operator	String	Relationship between keys and values. Currently, only in is supported. For example, flavor_type in [CPU,GPU] .

Table 5-71 advanced_config

Parameter	Type	Description
auto_search	auto_search object	Hyperparameter search policy.

Table 5-72 auto_search

Parameter	Type	Description
skip_search_params	String	Hyperparameter parameters that need to be skipped.
reward_attrs	Array of reward_attrs objects	List of search metrics.
search_params	Array of search_params objects	Search parameters.
algo_configs	Array of algo_configs objects	Search algorithm configurations.

Table 5-73 reward_attrs

Parameter	Type	Description
name	String	Metric name.
mode	String	Search mode. <ul style="list-style-type: none"> • max: A larger metric value is preferred. • min: A smaller metric value is preferred.
regex	String	Regular expression of a metric.

Table 5-74 search_params

Parameter	Type	Description
name	String	Hyperparameter name.
param_type	String	Parameter type. <ul style="list-style-type: none"> • continuous: The hyperparameter is of the continuous type. When an algorithm is used in a training job, continuous hyperparameters are displayed as text boxes on the console. • discrete: The hyperparameter is of the discrete type. When an algorithm is used in a training job, discrete hyperparameters are displayed as drop-down lists on the console.
lower_bound	String	Lower bound of the hyperparameter.
upper_bound	String	Upper bound of the hyperparameter.

Parameter	Type	Description
discrete_point_s_num	String	Number of discrete points of a continuous hyperparameter.
discrete_values	String	List of discrete hyperparameter values.

Table 5-75 algo_configs

Parameter	Type	Description
name	String	Name of the search algorithm.
params	Array of AutoSearchAlgoConfigParameter objects	Search algorithm parameters.

Table 5-76 AutoSearchAlgoConfigParameter

Parameter	Type	Description
key	String	Parameter key.
value	String	Parameter value.
type	String	Parameter type.

Example Requests

The following shows how to query the algorithm whose UUID is **2e5451fe-913f-4492-821a-2981031382f7**.

```
GET https://endpoint/v2/{project_id}/algorithms/2e5451fe-913f-4492-821a-2981031382f7
```

Example Responses

Status code: 200

ok

```
{
  "metadata": {
    "id": "2e5451fe-913f-4492-821a-2981031382f7",
    "name": "TestModelArtsAlgorithm",
    "description": "This is a ModelArts algorithm",
    "create_time": 1636600721742,
    "workspace_id": "0",
    "ai_project": "default-ai-project",
    "user_name": "",
    "domain_id": "xxxxxxxxxxxxxxxxxxxxxxxxxxxx",
    "source": "custom",
  }
}
```

```

"api_version" : "",
"is_valid" : true,
"state" : "",
"size" : 4791,
"tags" : null,
"attr_list" : null,
"version_num" : 0,
"update_time" : 0
},
"job_config" : {
"code_dir" : "/algo-test/pytorch/work1/code/",
"boot_file" : "/algo-test/pytorch/work1/code/test-pytorch.py",
"command" : "",
"parameters" : [ {
"name" : "test-parameter",
"description" : "",
"i18n_description" : null,
"value" : "10",
"constraint" : {
"type" : "String",
"editable" : true,
"required" : false,
"sensitive" : false,
"valid_type" : "None",
"valid_range" : [ ]
}
}
],
"parameters_customization" : true,
"inputs" : [ {
"name" : "data_url",
"description" : "name to translate"
}
],
"outputs" : [ {
"name" : "train_url",
"description" : "name to translate"
}
],
"engine" : {
"engine_id" : "pytorch-cp36-1.3.0",
"engine_name" : "PyTorch",
"engine_version" : "PyTorch-1.3.0-python3.6"
},
"code_tree" : {
"name" : "code/",
"children" : [ {
"name" : "test-pytorch.py"
}
]
}
},
"resource_requirements" : null,
"advanced_config" : { }
}

```

Status Codes

Status Code	Description
200	ok

Error Codes

See [Error Codes](#).

5.4 Modifying an Algorithm

Function

This API is used to modify an algorithm.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v2/{project_id}/algorithms/{algorithm_id}

Table 5-77 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
algorithm_id	Yes	String	Algorithm ID.

Request Parameters

Table 5-78 Request body parameters

Parameter	Mandatory	Type	Description
metadata	No	metadata object	Algorithm metadata, which describes basic algorithm information.
job_config	No	job_config object	Algorithm configuration, such as the boot file.
resource_requirements	No	Array of resource_requirements objects	Algorithm resource constraints. This parameter is optional. After this parameter is set, the console filters available public resource pools when the algorithm is used in training jobs.
advanced_config	No	advanced_config object	Advanced algorithm policy: <ul style="list-style-type: none"> • auto_search

Table 5-79 metadata

Parameter	Mandatory	Type	Description
id	No	Integer	Algorithm UUID. You do not need to set this parameter when creating an algorithm.
name	Yes	String	Algorithm name. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).
description	No	String	Description of the algorithm. The value is a string of [0, 256] characters. The default value is NULL.
workspace_id	No	String	Workspace where a specified algorithm is located. The default value is 0 . The value 0 indicates the default workspace.
ai_project	No	String	AI project to which a specified algorithm belongs. The default value is default-ai-project . The AI project has been brought offline. Ignore it.

Table 5-80 job_config

Parameter	Mandatory	Type	Description
code_dir	No	String	Algorithm code directory, for example, /usr/app/ . This parameter must be used together with boot_file .
boot_file	No	String	Code boot file of the algorithm, which needs to be stored in the code directory, for example, /usr/app/boot.py . This parameter must be used together with code_dir .
command	No	String	Container startup command of a custom image algorithm.
parameters	No	Array of Parameter objects	Running parameter of an algorithm.

Parameter	Mandatory	Type	Description
inputs	No	Array of inputs objects	Data input of an algorithm.
outputs	No	Array of outputs objects	Data output of an algorithm.
engine	No	engine object	Algorithm engine.
parameters_customization	No	Boolean	Whether the algorithm allows hyperparameter customization during training job creation.

Table 5-81 Parameter

Parameter	Mandatory	Type	Description
name	No	String	Parameter name.
value	No	String	Parameter value.
description	No	String	Parameter description.
constraint	No	constraint object	Parameter constraint.
i18n_description	No	i18n_description object	Internationalization description.

Table 5-82 constraint

Parameter	Mandatory	Type	Description
type	No	String	Parameter type.
editable	No	Boolean	Whether the parameter is editable.
required	No	Boolean	Whether the parameter is mandatory.
sensitive	No	Boolean	Whether the parameter is sensitive This function is not implemented currently.
valid_type	No	String	Valid type.
valid_range	No	Array of strings	Valid range.

Table 5-83 i18n_description

Parameter	Mandatory	Type	Description
language	No	String	Language. Options: <ul style="list-style-type: none"> • zh-cn: Chinese • en-us: English
description	No	String	Description.

Table 5-84 inputs

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the data input channel.
description	No	String	Description of the data input channel.
remote_constraints	No	Array of remote_constraints objects	Data input constraint.

Table 5-85 remote_constraints

Parameter	Mandatory	Type	Description
data_type	No	String	Data input type. The data storage location (OBS) and ModelArts dataset are supported.
attributes	No	Array of Map<String,String> objects	Attributes when the data input type is a dataset. Enums: <ul style="list-style-type: none"> • data_format: data format • data_segmentation: data segmentation • dataset_type: data labeling

Table 5-86 outputs

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the data output channel.

Parameter	Mandatory	Type	Description
description	No	String	Description of the data output channel.

Table 5-87 engine

Parameter	Mandatory	Type	Description
engine_id	No	String	Engine ID selected for an algorithm.
engine_name	No	String	Engine version name selected for an algorithm. If engine_id is specified, leave this parameter blank.
engine_version	No	String	Engine version name selected for an algorithm. If engine_id is specified, leave this parameter blank.
image_url	No	String	Custom image URL selected by an algorithm.

Table 5-88 resource_requirements

Parameter	Mandatory	Type	Description
key	No	String	Resource constraint. The options are as follows: <ul style="list-style-type: none"> flavor_type indicates the resource type. The value can be CPU, GPU, or Ascend. device_distributed_mode: indicates whether to support multi-card training. The value can be multiple (supported) or singular (not supported). host_distributed_mode: indicates whether distributed training is supported. The value can be multiple (supported) or singular (not supported).

Parameter	Mandatory	Type	Description
values	No	Array of strings	Value of the resource constraint key.
operator	No	String	Relationship between keys and values. Currently, only in is supported. For example, flavor_type in [CPU,GPU] .

Table 5-89 advanced_config

Parameter	Mandatory	Type	Description
auto_search	No	auto_search object	Hyperparameter search policy.

Table 5-90 auto_search

Parameter	Mandatory	Type	Description
skip_search_parameters	No	String	Hyperparameter parameters that need to be skipped.
reward_attrs	No	Array of reward_attrs objects	List of search metrics.
search_parameters	No	Array of search_parameters objects	Search parameters.
algo_configs	No	Array of algo_configs objects	Search algorithm configurations.

Table 5-91 reward_attrs

Parameter	Mandatory	Type	Description
name	No	String	Metric name.
mode	No	String	Search mode. <ul style="list-style-type: none"> • max: A larger metric value is preferred. • min: A smaller metric value is preferred.
regex	No	String	Regular expression of a metric.

Table 5-92 search_params

Parameter	Mandatory	Type	Description
name	No	String	Hyperparameter name.
param_type	No	String	Parameter type. <ul style="list-style-type: none"> • continuous: The hyperparameter is of the continuous type. When an algorithm is used in a training job, continuous hyperparameters are displayed as text boxes on the console. • discrete: The hyperparameter is of the discrete type. When an algorithm is used in a training job, discrete hyperparameters are displayed as drop-down lists on the console.
lower_bound	No	String	Lower bound of the hyperparameter.
upper_bound	No	String	Upper bound of the hyperparameter.
discrete_point_s_num	No	String	Number of discrete points of a continuous hyperparameter.
discrete_value_s	No	String	List of discrete hyperparameter values.

Table 5-93 algo_configs

Parameter	Mandatory	Type	Description
name	No	String	Name of the search algorithm.
params	No	Array of AutoSearchAlgorithmConfigParameter objects	Search algorithm parameters.

Table 5-94 AutoSearchAlgoConfigParameter

Parameter	Mandatory	Type	Description
key	No	String	Parameter key.
value	No	String	Parameter value.
type	No	String	Parameter type.

Response Parameters

Status code: 201

Table 5-95 Response body parameters

Parameter	Type	Description
metadata	metadata object	Algorithm metadata, which describes basic algorithm information.
job_config	job_config object	Algorithm configuration, such as the boot file.
resource_requirements	Array of resource_requirements objects	Algorithm resource constraint. This parameter is optional. After this parameter is set, the console filters available public resource pools when the algorithm is used in training jobs.
advanced_config	advanced_config object	Advanced algorithm policy: <ul style="list-style-type: none"> • auto_search

Table 5-96 metadata

Parameter	Type	Description
id	Integer	Algorithm UUID. You do not need to set this parameter when creating an algorithm.
name	String	Algorithm name. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).
description	String	Description of the algorithm. The value is a string of [0, 256] characters. The default value is NULL.
workspace_id	String	Workspace where a specified algorithm is located. The default value is 0 . The value 0 indicates the default workspace.

Parameter	Type	Description
ai_project	String	AI project to which a specified algorithm belongs. The default value is default-ai-project . The AI project has been brought offline. Ignore it.
user_name	String	Username.
domain_id	String	Domain ID of a user.
source	String	Algorithm source.
api_version	String	Algorithm API version, which identifies the old and new ones.
is_valid	String	Algorithm availability.
state	String	Algorithm state.
tags	Array of Map<String,String> objects	Algorithm tags.
attr_list	Array of strings	Algorithm attribute list.
version_num	Integer	Number of algorithm versions. The default value is 0 .
size	Integer	Algorithm size.
create_time	Long	Timestamp when the algorithm is created.
update_time	Long	Timestamp when the algorithm is updated.

Table 5-97 job_config

Parameter	Type	Description
code_dir	String	Algorithm code directory, for example, /usr/app/ . This parameter must be used together with boot_file .
boot_file	String	Code boot file of the algorithm, which must be stored in the code directory, for example, /usr/app/boot.py . This parameter must be used with code_dir .
command	String	Container startup command of a custom image algorithm.
parameters	Array of Parameter objects	Running parameter of an algorithm.

Parameter	Type	Description
inputs	Array of inputs objects	Data input of an algorithm.
outputs	Array of outputs objects	Data output of an algorithm.
engine	engine object	Algorithm engine.
code_tree	Array of code_tree objects	Algorithm directory tree
parameters_customization	Boolean	Whether the algorithm allows hyperparameter customization during training job creation.

Table 5-98 Parameter

Parameter	Type	Description
name	String	Parameter name.
value	String	Parameter value.
description	String	Parameter description.
constraint	constraint object	Parameter constraint.
internationalization_description	internationalization object	Internationalization description.

Table 5-99 constraint

Parameter	Type	Description
type	String	Parameter type.
editable	Boolean	Whether the parameter is editable.
required	Boolean	Whether the parameter is mandatory.
sensitive	Boolean	Whether the parameter is sensitive This function is not implemented currently.
valid_type	String	Valid type.
valid_range	Array of strings	Valid range.

Table 5-100 i18n_description

Parameter	Type	Description
language	String	Language. Options: <ul style="list-style-type: none"> • zh-cn: Chinese • en-us: English
description	String	Description.

Table 5-101 inputs

Parameter	Type	Description
name	String	Name of the data input channel.
description	String	Description of the data input channel.
remote_constraints	Array of remote_constraints objects	Data input constraint.

Table 5-102 remote_constraints

Parameter	Type	Description
data_type	String	Data input type, including the data storage location and dataset.
attributes	Array of Map<String,String> objects	Attributes when the data input type is a dataset. Enums: <ul style="list-style-type: none"> • data_format: data format • data_segmentation: data segmentation • dataset_type: data labeling

Table 5-103 outputs

Parameter	Type	Description
name	String	Name of the data output channel.
description	String	Description of the data output channel.

Table 5-104 engine

Parameter	Type	Description
engine_id	String	Engine ID selected for an algorithm.
engine_name	String	Engine version name selected for an algorithm. If engine_id is specified, leave this parameter blank.
engine_version	String	Engine version name selected for an algorithm. If engine_id is specified, leave this parameter blank.
image_url	String	Custom image URL selected by an algorithm.

Table 5-105 code_tree

Parameter	Type	Description
name	String	Name of the current directory in the algorithm directory tree.
children	Object	Subfiles and subdirectories in the current directory of the algorithm directory tree.

Table 5-106 resource_requirements

Parameter	Type	Description
key	String	Resource constraint. The options are as follows: <ul style="list-style-type: none"> • flavor_type: flavor type, which can be CPU, Ascend, or GPU. • device_distributed_mode: whether to support multi-card training. The value can be multiple (supported) or singular (not supported). • host_distributed_mode: whether to support distributed training. The value can be multiple (supported) or singular (not supported).
value	Array of strings	Value of the resource constraint key.
operator	String	Relationship between keys and values. Currently, only in is supported. For example, flavor_type in [CPU,GPU] .

Table 5-107 advanced_config

Parameter	Type	Description
auto_search	auto_search object	Hyperparameter search policy.

Table 5-108 auto_search

Parameter	Type	Description
skip_search_params	String	Hyperparameter parameters that need to be skipped.
reward_attrs	Array of reward_attrs objects	List of search metrics.
search_params	Array of search_params objects	Search parameters.
algo_configs	Array of algo_configs objects	Search algorithm configurations.

Table 5-109 reward_attrs

Parameter	Type	Description
name	String	Metric name.
mode	String	Search mode. <ul style="list-style-type: none"> max: A larger metric value is preferred. min: A smaller metric value is preferred.
regex	String	Regular expression of a metric.

Table 5-110 search_params

Parameter	Type	Description
name	String	Hyperparameter name.

Parameter	Type	Description
param_type	String	Parameter type. <ul style="list-style-type: none"> • continuous: The hyperparameter is of the continuous type. When an algorithm is used in a training job, continuous hyperparameters are displayed as text boxes on the console. • discrete: The hyperparameter is of the discrete type. When an algorithm is used in a training job, discrete hyperparameters are displayed as drop-down lists on the console.
lower_bound	String	Lower bound of the hyperparameter.
upper_bound	String	Upper bound of the hyperparameter.
discrete_points_num	String	Number of discrete points of a continuous hyperparameter.
discrete_values	String	List of discrete hyperparameter values.

Table 5-111 algo_configs

Parameter	Type	Description
name	String	Name of the search algorithm.
params	Array of AutoSearchAlgorithmConfigParameter objects	Search algorithm parameters.

Table 5-112 AutoSearchAlgorithmConfigParameter

Parameter	Type	Description
key	String	Parameter key.
value	String	Parameter value.
type	String	Parameter type.

Example Requests

The following shows how to modify the algorithm whose UUID is **2e5451fe-913f-4492-821a-2981031382f7**.

```
PUT https://endpoint/v2/{project_id}/algorithms/2e5451fe-913f-4492-821a-2981031382f7
```

```
{
  "metadata": {
    "name": "TestModelArtsalgorithm",
    "description": "This is a ModelArts algorithm modified"
  },
  "job_config": {
    "code_dir": "/algo-test/pytorch/work1/code/",
    "boot_file": "/algo-test/pytorch/work1/code/test-pytorch.py",
    "parameters": [ {
      "name": "test-parameter",
      "value": "10",
      "constraint": {
        "type": "String",
        "editable": true,
        "required": false,
        "sensitive": false,
        "valid_type": "None",
        "valid_range": [ ]
      }
    }
  ],
  "parameters_customization": true,
  "inputs": [ {
    "name": "data_url",
    "description": "data source."
  } ],
  "outputs": [ {
    "name": "train_url",
    "description": "model output."
  } ],
  "engine": {
    "engine_name": "PyTorch",
    "engine_version": "PyTorch-1.3.0-python3.6"
  }
}
```

Example Responses

Status code: 201

ok

```
{
  "metadata": {
    "id": "2e5451fe-913f-4492-821a-2981031382f7",
    "name": "TestModelArtsalgorithm",
    "description": "This is a ModelArts algorithm modified",
    "create_time": 1636600721742,
    "workspace_id": "0",
    "ai_project": "default-ai-project",
    "user_name": "",
    "domain_id": "xxxxxxxxxxxxxxxxxxxxxxxxxxxx",
    "source": "custom",
    "api_version": "",
    "is_valid": true,
    "state": "",
    "size": 4791,
    "tags": null,
    "attr_list": null,
    "version_num": 0,
    "update_time": 0
  },
  "job_config": {
    "code_dir": "/algo-test/pytorch/work1/code/",
    "boot_file": "/algo-test/pytorch/work1/code/test-pytorch.py",
    "command": "",
    "parameters": [ {
      "name": "test-parameter",
      "description": ""
    }
  ]
}
```

```

    "i18n_description" : null,
    "value" : "10",
    "constraint" : {
      "type" : "String",
      "editable" : true,
      "required" : false,
      "sensitive" : false,
      "valid_type" : "None",
      "valid_range" : [ ]
    }
  }],
  "parameters_customization" : true,
  "inputs" : [ {
    "name" : "data_url",
    "description" : "name to translate"
  } ],
  "outputs" : [ {
    "name" : "train_url",
    "description" : "name to translate"
  } ],
  "engine" : {
    "engine_id" : "pytorch-cp36-1.3.0",
    "engine_name" : "PyTorch",
    "engine_version" : "PyTorch-1.3.0-python3.6"
  },
  "code_tree" : {
    "name" : "code/",
    "children" : [ {
      "name" : "test-pytorch.py"
    } ]
  }
},
"resource_requirements" : null,
"advanced_config" : { }
}

```

Status Codes

Status Code	Description
201	ok

Error Codes

See [Error Codes](#).

5.5 Deleting an Algorithm

Function

This API is used to delete an algorithm.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v2/{project_id}/algorithms/{algorithm_id}

Table 5-113 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
algorithm_id	Yes	String	Algorithm ID.

Request Parameters

None

Response Parameters

None

Example Requests

The following shows how to modify the algorithm whose UUID is **2e5451fe-913f-4492-821a-2981031382f7**.

```
DELETE https://endpoint/v2/{project_id}/algorithms/2e5451fe-913f-4492-821a-2981031382f7
```

Example Responses

Status code: 202

No Content

```
null
```

Status Codes

Status Code	Description
202	No Content

Error Codes

See [Error Codes](#).

5.6 Creating a Training Job

Function

This API is used to create a training job.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/training-jobs

Table 5-114 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 5-115 Request body parameters

Parameter	Mandatory	Type	Description
kind	Yes	String	Training job type. The default value is job , indicating a training job.
metadata	Yes	JobMetadata object	Metadata of a training job.
algorithm	No	JobAlgorithm object	Algorithm used by a training job. The options are as follows: <ul style="list-style-type: none"> • id: Only the algorithm ID is used. • subscription_id+item_version_id: The subscription ID and version ID of the algorithm are used. • code_dir+boot_file: The code directory and boot file of the training job are used.

Parameter	Mandatory	Type	Description
tasks	No	Array of Task objects	Task list. This function is not implemented currently.
spec	No	spec object	Specifications of a training job. If this parameter is specified, leave the tasks parameter blank.

Table 5-116 JobMetadata

Parameter	Mandatory	Type	Description
id	No	String	Training job ID, which is generated and returned by ModelArts after the training job is created.
name	Yes	String	Name of a training job. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).
workspace_id	No	String	Workspace where a job is located. The default value is 0 .
description	No	String	Training job description. The value must contain 0 to 256 characters. The default value is NULL .
create_time	No	Long	Time when a training job was created, in milliseconds. The value is generated and returned by ModelArts after a training job is created.
user_name	No	String	Username for creating a training job. The username is generated and returned by ModelArts after a training job is created.
annotations	No	Map<String,String>	Advanced configuration of a training job. Options: <ul style="list-style-type: none"> • job_template: Template RL (heterogeneous job) • fault-tolerance/job-retry-num: 3 (number of retries upon a fault)

Table 5-117 JobAlgorithm

Parameter	Mandatory	Type	Description
id	No	String	Algorithm ID.
name	No	String	Algorithm name. Leave it blank.
subscription_id	No	String	Subscription ID of a subscribed algorithm, which must be used with item_version_id
item_version_id	No	String	Version ID of the subscribed algorithm, which must be used with subscription_id
code_dir	No	String	Code directory of a training job, for example, /usr/app/ . This parameter must be used together with boot_file . If id or subscription_id + item_version_id is set, leave it blank.
boot_file	No	String	Boot file of a training job, which must be stored in the code directory, for example, /usr/app/boot.py . This parameter must be used with code_dir . Leave this parameter blank if id , or subscription_id and item_version_id are specified.
autosearch_config_path	No	String	YAML configuration path of auto search jobs. An OBS URL is required.
autosearch_framework_path	No	String	Framework code directory of auto search jobs. An OBS URL is required.
command	No	String	Command for starting the container of the custom image of a training job in the custom image scenario.
parameters	No	Array of parameters objects	Running parameters of a training job.
policies	No	policies object	Policies supported by jobs, which are used for hyperparameter search.

Parameter	Mandatory	Type	Description
inputs	No	Array of Input objects	Input of a training job.
outputs	No	Array of Output objects	Output of a training job.
engine	No	engine object	Engine of a training job. Leave this parameter blank if the job is created using id of the algorithm in algorithm management, or subscription_id +item_version_id of the subscribed algorithm.
local_code_dir	No	String	Local directory to the training container to which the algorithm code directory is downloaded Rules: <ul style="list-style-type: none"> • The value must be a directory in /home. • In v1 compatibility mode, the current field does not take effect. • When code_dir is prefixed with file://, the current field does not take effect.
working_dir	No	String	Work directory where an algorithm is executed. Note that this parameter does not take effect in v1 compatibility mode.
environments	No	Map<String,String>	Environment variables of a training job. The format is key:value . Leave this parameter blank.

Table 5-118 parameters

Parameter	Mandatory	Type	Description
name	No	String	Parameter name.
value	No	String	Parameter value.
description	No	String	Parameter description.

Parameter	Mandatory	Type	Description
constraint	No	constraint object	Parameter constraint.
i18n_description	No	i18n_description object	Internationalization description.

Table 5-119 constraint

Parameter	Mandatory	Type	Description
type	No	String	Parameter type.
editable	No	Boolean	Whether the parameter is editable.
required	No	Boolean	Whether the parameter is mandatory.
sensitive	No	Boolean	Whether the parameter is sensitive This function is not implemented currently.
valid_type	No	String	Valid type.
valid_range	No	Array of strings	Valid range.

Table 5-120 i18n_description

Parameter	Mandatory	Type	Description
language	No	String	Internationalization language.
description	No	String	Description.

Table 5-121 policies

Parameter	Mandatory	Type	Description
auto_search	No	auto_search object	Hyperparameter search configuration.

Table 5-122 auto_search

Parameter	Mandatory	Type	Description
skip_search_params	No	String	Hyperparameter parameters that need to be skipped.
reward_attrs	No	Array of reward_attrs objects	List of search metrics.
search_params	No	Array of search_params objects	Search parameters.
algo_configs	No	Array of algo_configs objects	Search algorithm configurations.

Table 5-123 reward_attrs

Parameter	Mandatory	Type	Description
name	No	String	Metric name.
mode	No	String	Search mode. <ul style="list-style-type: none"> • max: A larger metric value is preferred. • min: A smaller metric value is preferred.
regex	No	String	Regular expression of a metric.

Table 5-124 search_params

Parameter	Mandatory	Type	Description
name	No	String	Hyperparameter name.

Parameter	Mandatory	Type	Description
param_type	No	String	Parameter type. <ul style="list-style-type: none"> • continuous: The hyperparameter is of the continuous type. When an algorithm is used in a training job, continuous hyperparameters are displayed as text boxes on the console. • discrete: The hyperparameter is of the discrete type. When an algorithm is used in a training job, discrete hyperparameters are displayed as drop-down lists on the console.
lower_bound	No	String	Lower bound of the hyperparameter.
upper_bound	No	String	Upper bound of the hyperparameter.
discrete_points_num	No	String	Number of discrete points of a continuous hyperparameter.
discrete_values	No	Array of strings	List of discrete hyperparameter values.

Table 5-125 algo_configs

Parameter	Mandatory	Type	Description
name	No	String	Name of the search algorithm.
params	No	Array of AutoSearchAlgoConfigParameter objects	Search algorithm parameters.

Table 5-126 AutoSearchAlgoConfigParameter

Parameter	Mandatory	Type	Description
key	No	String	Parameter key.
value	No	String	Parameter value.

Parameter	Mandatory	Type	Description
type	No	String	Parameter type.

Table 5-127 engine

Parameter	Mandatory	Type	Description
engine_id	No	String	Engine ID selected for a training job. The value can be engine_id , engine_name + engine_version , or image_url .
engine_name	No	String	Name of the engine selected for a training job. If engine_id is set, leave this parameter blank.
engine_version	No	String	Name of the engine version selected for a training job. If engine_id is set, leave this parameter blank.
image_url	No	String	Custom image URL selected for a training job.

Table 5-128 Task

Parameter	Mandatory	Type	Description
role	No	String	Task role. This function is not supported currently.
algorithm	No	algorithm object	Algorithm management and configuration.
task_resource	No	task_resource object	Resource flavors of a training job.

Table 5-129 algorithm

Parameter	Mandatory	Type	Description
job_config	No	job_config object	Algorithm configuration, such as the boot file.

Parameter	Mandatory	Type	Description
code_dir	No	String	Algorithm code directory, for example, /usr/app/ . This parameter must be used together with boot_file .
boot_file	No	String	Code boot file of the algorithm, which needs to be stored in the code directory, for example, /usr/app/boot.py . This parameter must be used together with code_dir .
engine	No	engine object	Engine of a heterogeneous job algorithm.
inputs	No	Array of inputs objects	Data input of an algorithm.
outputs	No	Array of outputs objects	Data output of an algorithm.
local_code_dir	No	String	Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: <ul style="list-style-type: none"> • The directory must be under /home. • In v1 compatibility mode, the current field does not take effect. • When code_dir is prefixed with file://, the current field does not take effect.
working_dir	No	String	Work directory where an algorithm is executed. Note that this parameter does not take effect in v1 compatibility mode.

Table 5-130 job_config

Parameter	Mandatory	Type	Description
parameters	No	Array of Parameter objects	Running parameter of an algorithm.

Parameter	Mandatory	Type	Description
inputs	No	Array of Input objects	Data input of an algorithm.
outputs	No	Array of Output objects	Data output of an algorithm.
engine	No	engine object	Algorithm engine.

Table 5-131 Parameter

Parameter	Mandatory	Type	Description
name	No	String	Parameter name.
value	No	String	Parameter value.
description	No	String	Parameter description.
constraint	No	constraint object	Parameter constraint.
i18n_description	No	i18n_description object	Internationalization description.

Table 5-132 constraint

Parameter	Mandatory	Type	Description
type	No	String	Parameter type.
editable	No	Boolean	Whether the parameter is editable.
required	No	Boolean	Whether the parameter is mandatory.
sensitive	No	Boolean	Whether the parameter is sensitive This function is not implemented currently.
valid_type	No	String	Valid type.
valid_range	No	Array of strings	Valid range.

Table 5-133 i18n_description

Parameter	Mandatory	Type	Description
language	No	String	Language. Options: <ul style="list-style-type: none"> • zh-cn: Chinese • en-us: English
description	No	String	Description.

Table 5-134 Input

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the data input channel.
description	No	String	Description of the data input channel.
local_dir	No	String	Local directory of the container to which the data input channel is mapped.
remote	Yes	InputDataInfo object	Information of the data input. Enums: <ul style="list-style-type: none"> • dataset: The data input is a dataset. • obs: The data input is an OBS path.
remote_constraint	No	Array of remote_constraint objects	Data input constraint

Table 5-135 InputDataInfo

Parameter	Mandatory	Type	Description
dataset	No	dataset object	Dataset as the data input.
obs	No	obs object	OBS in which data input and output stored.

Table 5-136 dataset

Parameter	Mandatory	Type	Description
id	Yes	String	Dataset ID of a training job.
version_id	Yes	String	Dataset version ID of a training job.
obs_url	No	String	OBS URL of the dataset for a training job. It is automatically parsed by ModelArts based on the dataset ID and dataset version ID. For example, /usr/data/ .

Table 5-137 obs

Parameter	Mandatory	Type	Description
obs_url	Yes	String	OBS URL of the dataset required by a training job. For example, /usr/data/ .

Table 5-138 remote_constraint

Parameter	Mandatory	Type	Description
data_type	No	String	Data input type, including the data storage location and dataset.
attributes	No	String	Attributes if a dataset is used as the data input. Options: <ul style="list-style-type: none"> • data_format: Data format • data_segmentation: Data segmentation • dataset_type: Labeling type

Table 5-139 Output

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the data output channel.
description	No	String	Description of the data output channel.

Parameter	Mandatory	Type	Description
local_dir	No	String	Local directory of the container to which the data output channel is mapped.
remote	Yes	remote object	Description of the actual data output.

Table 5-140 remote

Parameter	Mandatory	Type	Description
obs	Yes	obs object	OBS to which data is actually exported.

Table 5-141 obs

Parameter	Mandatory	Type	Description
obs_url	Yes	String	OBS URL to which data is actually exported.

Table 5-142 engine

Parameter	Mandatory	Type	Description
engine_id	No	String	Engine ID selected for an algorithm.
engine_name	No	String	Engine version name selected for an algorithm. If engine_id is specified, leave this parameter blank.
engine_version	No	String	Engine version name selected for an algorithm. If engine_id is specified, leave this parameter blank.
image_url	No	String	Custom image URL selected by an algorithm.

Table 5-143 engine

Parameter	Mandatory	Type	Description
engine_id	No	String	Engine ID of a heterogeneous job, for example, caffe-1.0.0-python2.7 .
engine_name	No	String	Engine name of a heterogeneous job, for example, Caffe .
engine_version	No	String	Engine version of a heterogeneous job.
image_url	No	String	Custom image URL selected by an algorithm.

Table 5-144 inputs

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the data input channel.
description	No	String	Description of the data input channel.
local_dir	No	String	Local directory of the container to which the data input channel is mapped.
remote	Yes	remote object	Information of the data input. Enums: <ul style="list-style-type: none"> • dataset: The data input is a dataset. • obs: The data input is an OBS path.

Table 5-145 remote

Parameter	Mandatory	Type	Description
obs	No	obs object	OBS in which data input and output stored.

Table 5-146 obs

Parameter	Mandatory	Type	Description
obs_url	Yes	String	OBS URL of the dataset required by a training job. For example, <code>/usr/data/</code> .

Table 5-147 outputs

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the data output channel.
description	No	String	Description of the data output channel.
local_dir	No	String	Local directory of the container to which the data output channel is mapped.
remote	Yes	remote object	Description of the actual data output.

Table 5-148 remote

Parameter	Mandatory	Type	Description
obs	Yes	obs object	OBS to which data is actually exported.

Table 5-149 obs

Parameter	Mandatory	Type	Description
obs_url	Yes	String	OBS URL to which data is exported.

Table 5-150 task_resource

Parameter	Mandatory	Type	Description
flavor_id	No	String	Resource flavor ID of a training job.
node_count	Yes	Integer	Number of resource replicas selected for a training job.

Table 5-151 spec

Parameter	Mandatory	Type	Description
resource	No	resource object	Resource flavors of a training job. Select either flavor_id or pool_id+[flavor_id] .
volumes	No	Array of volumes objects	Volumes attached to a training job.
log_export_path	No	log_export_path object	Export path of training job logs.
auto_stop	No	auto_stop object	Auto stop configuration of a training job

Table 5-152 resource

Parameter	Mandatory	Type	Description
flavor_id	No	String	ID of the resource flavor selected for a training job. flavor_id cannot be specified for dedicated resource pools with CPU specifications. The options for dedicated resource pools with GPU/Ascend specifications are as follows: <ul style="list-style-type: none"> • modelarts.pool.visual.xlarge (1 card) • modelarts.pool.visual.2xlarge (2 cards) • modelarts.pool.visual.4xlarge (4 cards) • modelarts.pool.visual.8xlarge (8 cards)
node_count	No	Integer	Number of nodes used for creating a training job in a pool. By default, a single node is used.
pool_id	No	String	Dedicated resource pool ID.

Table 5-153 volumes

Parameter	Mandatory	Type	Description
nfs	No	nfs object	Volumes attached in NFS mode.

Table 5-154 nfs

Parameter	Mandatory	Type	Description
nfs_server_path	No	String	NFS server path.
local_path	No	String	Path for attaching volumes to the training container.
read_only	No	Boolean	Whether the volumes attached to the container in NFS mode are read-only.

Table 5-155 log_export_path

Parameter	Mandatory	Type	Description
obs_url	No	String	OBS URL for storing training job logs.
host_path	No	String	Path of the host where training job logs are stored.

Table 5-156 auto_stop

Parameter	Mandatory	Type	Description
time_unit	Yes	String	Time unit. Options: <ul style="list-style-type: none"> HOURS
duration	Yes	Integer	Running duration. The minimum value is 1 .

Response Parameters

Status code: 201

Table 5-157 Response body parameters

Parameter	Type	Description
kind	String	Training job type, which is job by default. Options: <ul style="list-style-type: none"> • job: training job
metadata	JobMetadata object	Metadata of a training job.
status	Status object	Status of a training job. You do not need to set this parameter when creating a job.
algorithm	JobAlgorithm Response object	Algorithm used by a training job. The options are as follows: <ul style="list-style-type: none"> • id: Only the algorithm ID is used. • subscription_id+item_version_id: The subscription ID and version ID of the algorithm are used. • code_dir+boot_file: The code directory and boot file of the training job are used.
tasks	Array of TaskResponse objects	List of tasks in heterogeneous training jobs.
spec	spec object	Specifications of a training job.

Table 5-158 JobMetadata

Parameter	Type	Description
id	String	Training job ID, which is generated and returned by ModelArts after the training job is created.
name	String	Name of a training job. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).
workspace_id	String	Workspace where a job is located. The default value is 0 .
description	String	Training job description. The value must contain 0 to 256 characters. The default value is NULL .
create_time	Long	Time when a training job was created, in milliseconds. The value is generated and returned by ModelArts after a training job is created.

Parameter	Type	Description
user_name	String	Username for creating a training job. The username is generated and returned by ModelArts after a training job is created.
annotations	Map<String,String>	Advanced configuration of a training job. Options: <ul style="list-style-type: none"> • job_template: Template RL (heterogeneous job) • fault-tolerance/job-retry-num: 3 (number of retries upon a fault)

Table 5-159 Status

Parameter	Type	Description
phase	String	Level-1 status of a training job. The options are as follows: Creating, Pending, Running, Failed, Completed, Terminating, Terminated, Abnormal.
secondary_phase	String	Level-2 status of a training job. The values are internal detailed statuses and may be added, changed, or deleted. Dependency on the status is not recommended. The options are as follows: Creating, Queuing, Running, Failed, Completed, Terminating, Terminated, CreateFailed, TerminatedFailed, Unknown, Lost.
duration	Long	Running duration of a training job, in milliseconds
node_count_metrics	Array<Array<Integer>>	Node count changes during the training job running period.
tasks	Array of strings	Tasks of a training job.
start_time	Long	Start time of a training job. The value is in timestamp format.
task_statuses	Array of task_statuses objects	Status of a training job task.
running_records	Array of running_records objects	Running and fault recovery records of a training job

Table 5-160 task_statuses

Parameter	Type	Description
task	String	Name of a training job task.
exit_code	Integer	Exit code of a training job task.
message	String	Error message of a training job task.

Table 5-161 running_records

Parameter	Type	Description
start_at	Integer	Unix timestamp of the start time in the current running record, in seconds
end_at	Integer	Unix timestamp of the end time in the current running record, in seconds
start_type	String	Startup mode of the current running record. The options are as follows: init_or_rescheduled : This startup is the first running after scheduling, including the first startup and the running after scheduling recovery. restarted : This startup is not the first running after scheduling but the running after a process restart.
end_reason	String	Reason why the current running record ends
end_related_task	String	ID of the task worker that causes the end of the current running record, for example, worker-0
end_recover	String	Fault tolerance policy used after the current running record ends. The enums are as follows: <ul style="list-style-type: none"> • npu_proc_restart: NPU in-place hot recovery • gpu_proc_restart: GPU in-place hot recovery • proc_restart: Process in-place recovery • pod_reschedule: Pod-level rescheduling • job_reschedule: Job-level rescheduling • job_reschedule_with_taint: Isolated job-level rescheduling
end_recover_before_degrade	String	Tolerance policy used after the current running record ends and before the fault tolerance policy is degraded. The options are the same as those of end_recover .

Table 5-162 JobAlgorithmResponse

Parameter	Type	Description
id	String	Algorithm used by a training job. The options are as follows: <ul style="list-style-type: none"> • id: Only the algorithm ID is used. • subscription_id+item_version_id: The subscription ID and version ID of the algorithm are used. • code_dir+boot_file: The code directory and boot file of the training job are used.
name	String	Algorithm name.
subscription_id	String	Subscription ID of a subscribed algorithm, which must be used with item_version_id
item_version_id	String	Version ID of the subscribed algorithm, which must be used with subscription_id
code_dir	String	Code directory of a training job, for example, /usr/app/ . This parameter must be used together with boot_file . If id or subscription_id+item_version_id is set, leave it blank.
boot_file	String	Boot file of a training job, which must be stored in the code directory, for example, /usr/app/boot.py . This parameter must be used with code_dir . Leave this parameter blank if id , or subscription_id and item_version_id are specified.
autosearch_config_path	String	YAML configuration path of auto search jobs. An OBS URL is required.
autosearch_framework_path	String	Framework code directory of auto search jobs. An OBS URL is required.
command	String	Boot command for starting the container of a custom image for a training job. For example, python train.py .
parameters	Array of Parameter objects	Running parameters of a training job.
policies	policies object	Policies supported by jobs.
inputs	Array of Input objects	Input of a training job.

Parameter	Type	Description
outputs	Array of Output objects	Output of a training job.
engine	engine object	Engine of a training job. Leave this parameter blank if the job is created using id of the algorithm in algorithm management, or subscription_id+item_version_id of the subscribed algorithm.
local_code_dir	String	Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: <ul style="list-style-type: none"> • The directory must be under /home. • In v1 compatibility mode, the current field does not take effect. • When code_dir is prefixed with file://, the current field does not take effect.
working_dir	String	Work directory where an algorithm is executed. Note that this parameter does not take effect in v1 compatibility mode.
environments	Array of Map<String,String> objects	Environment variables of a training job. The format is key:value . Leave this parameter blank.

Table 5-163 Parameter

Parameter	Type	Description
name	String	Parameter name.
value	String	Parameter value.
description	String	Parameter description.
constraint	constraint object	Parameter constraint.
i18n_description	i18n_description object	Internationalization description.

Table 5-164 constraint

Parameter	Type	Description
type	String	Parameter type.

Parameter	Type	Description
editable	Boolean	Whether the parameter is editable.
required	Boolean	Whether the parameter is mandatory.
sensitive	Boolean	Whether the parameter is sensitive This function is not implemented currently.
valid_type	String	Valid type.
valid_range	Array of strings	Valid range.

Table 5-165 i18n_description

Parameter	Type	Description
language	String	Language. Options: <ul style="list-style-type: none"> • zh-cn: Chinese • en-us: English
description	String	Description.

Table 5-166 policies

Parameter	Type	Description
auto_search	auto_search object	Hyperparameter search configuration.

Table 5-167 auto_search

Parameter	Type	Description
skip_search_parameters	String	Hyperparameter parameters that need to be skipped.
reward_attrs	Array of reward_attrs objects	List of search metrics.
search_parameters	Array of search_parameters objects	Search parameters.
algo_configs	Array of algo_configs objects	Search algorithm configurations.

Table 5-168 reward_attrs

Parameter	Type	Description
name	String	Metric name.
mode	String	Search mode. <ul style="list-style-type: none"> • max: A larger metric value is preferred. • min: A smaller metric value is preferred.
regex	String	Regular expression of a metric.

Table 5-169 search_params

Parameter	Type	Description
name	String	Hyperparameter name.
param_type	String	Parameter type. <ul style="list-style-type: none"> • continuous: The hyperparameter is of the continuous type. When an algorithm is used in a training job, continuous hyperparameters are displayed as text boxes on the console. • discrete: The hyperparameter is of the discrete type. When an algorithm is used in a training job, discrete hyperparameters are displayed as drop-down lists on the console.
lower_bound	String	Lower bound of the hyperparameter.
upper_bound	String	Upper bound of the hyperparameter.
discrete_points_num	String	Number of discrete points of a continuous hyperparameter.
discrete_values	Array of strings	List of discrete hyperparameter values.

Table 5-170 algo_configs

Parameter	Type	Description
name	String	Name of the search algorithm.
params	Array of AutoSearchAlgorithmConfigParameter objects	Search algorithm parameters.

Table 5-171 AutoSearchAlgoConfigParameter

Parameter	Type	Description
key	String	Parameter key.
value	String	Parameter value.
type	String	Parameter type.

Table 5-172 Input

Parameter	Type	Description
name	String	Name of the data input channel.
description	String	Description of the data input channel.
local_dir	String	Local directory of the container to which the data input channel is mapped.
remote	InputDataInfo object	Information of the data input. Enums: <ul style="list-style-type: none"> • dataset: The data input is a dataset. • obs: The data input is an OBS path.
remote_constraint	Array of remote_constraint objects	Data input constraint

Table 5-173 InputDataInfo

Parameter	Type	Description
dataset	dataset object	Dataset as the data input.
obs	obs object	OBS in which data input and output stored.

Table 5-174 dataset

Parameter	Type	Description
id	String	Dataset ID of a training job.
version_id	String	Dataset version ID of a training job.
obs_url	String	OBS URL of the dataset for a training job. It is automatically parsed by ModelArts based on the dataset ID and dataset version ID. For example, /usr/data/ .

Table 5-175 obs

Parameter	Type	Description
obs_url	String	OBS URL of the dataset required by a training job. For example, /usr/data/ .

Table 5-176 remote_constraint

Parameter	Type	Description
data_type	String	Data input type, including the data storage location and dataset.
attributes	String	Attributes if a dataset is used as the data input. Options: <ul style="list-style-type: none"> • data_format: Data format • data_segmentation: Data segmentation • dataset_type: Labeling type

Table 5-177 Output

Parameter	Type	Description
name	String	Name of the data output channel.
description	String	Description of the data output channel.
local_dir	String	Local directory of the container to which the data output channel is mapped.
remote	remote object	Description of the actual data output.

Table 5-178 remote

Parameter	Type	Description
obs	obs object	OBS to which data is actually exported.

Table 5-179 obs

Parameter	Type	Description
obs_url	String	OBS URL to which data is actually exported.

Table 5-180 engine

Parameter	Type	Description
engine_id	String	Engine ID selected for a training job. The value can be engine_id , engine_name + engine_version , or image_url .
engine_name	String	Name of the engine selected for a training job. If engine_id is set, leave this parameter blank.
engine_version	String	Name of the engine version selected for a training job. If engine_id is set, leave this parameter blank.
image_url	String	Custom image URL selected for a training job.

Table 5-181 TaskResponse

Parameter	Type	Description
role	String	Task role. This function is not supported currently.
algorithm	algorithm object	Algorithm management and configuration.
task_resource	FlavorResponse object	Flavors of a training job or an algorithm.

Table 5-182 algorithm

Parameter	Type	Description
code_dir	String	Absolute path of the directory where the algorithm boot file is stored.
boot_file	String	Absolute path of the algorithm boot file.
inputs	inputs object	Algorithm input channel.
outputs	outputs object	Algorithm output channel.
engine	engine object	Engine on which a heterogeneous job depends.

Parameter	Type	Description
local_code_dir	String	Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: <ul style="list-style-type: none"> • The directory must be under /home. • In v1 compatibility mode, the current field does not take effect. • When code_dir is prefixed with file://, the current field does not take effect.
working_dir	String	Work directory where an algorithm is executed. Note that this parameter does not take effect in v1 compatibility mode.

Table 5-183 inputs

Parameter	Type	Description
name	String	Name of the data input channel.
local_dir	String	Local path of the container to which the data input and output channels are mapped.
remote	remote object	Actual data input. Heterogeneous jobs support only OBS.

Table 5-184 remote

Parameter	Type	Description
obs	obs object	OBS in which data input and output stored.

Table 5-185 obs

Parameter	Type	Description
obs_url	String	OBS URL of the dataset required by a training job. For example, /usr/data/ .

Table 5-186 outputs

Parameter	Type	Description
name	String	Name of the data output channel.

Parameter	Type	Description
local_dir	String	Local directory of the container to which the data output channel is mapped.
remote	remote object	Description of the actual data output.
mode	String	Data transmission mode. The default value is upload_periodically .
period	String	Data transmission period. The default value is 30s .

Table 5-187 remote

Parameter	Type	Description
obs	obs object	OBS to which data is actually exported.

Table 5-188 obs

Parameter	Type	Description
obs_url	String	OBS URL to which data is exported.

Table 5-189 engine

Parameter	Type	Description
engine_id	String	Engine ID of a heterogeneous job, for example, caffe-1.0.0-python2.7 .
engine_name	String	Engine name of a heterogeneous job, for example, Caffe .
engine_version	String	Engine version of a heterogeneous job.
v1_compatible	Boolean	Whether the v1 compatibility mode is used.
run_user	String	User UID started by default by the engine.
image_url	String	Custom image URL selected by an algorithm.

Table 5-190 FlavorResponse

Parameter	Type	Description
flavor_id	String	ID of the resource flavor.
flavor_name	String	Name of the resource flavor.
max_num	Integer	Maximum number of nodes in a resource flavor.
flavor_type	String	Resource flavor type. Options: <ul style="list-style-type: none"> • CPU • GPU • Ascend
billing	billing object	Billing information of a resource flavor.
flavor_info	flavor_info object	Resource flavor details.
attributes	Map<String,String>	Other specification attributes.

Table 5-191 billing

Parameter	Type	Description
code	String	Billing code.
unit_num	Integer	Number of billing units.

Table 5-192 flavor_info

Parameter	Type	Description
max_num	Integer	Maximum number of nodes that can be selected. The value 1 indicates that the distributed mode is not supported.
cpu	cpu object	CPU specifications.
gpu	gpu object	GPU specifications.
npu	npu object	Ascend specifications
memory	memory object	Memory information.
disk	disk object	Disk information.

Table 5-193 cpu

Parameter	Type	Description
arch	String	CPU architecture.
core_num	Integer	Number of cores.

Table 5-194 gpu

Parameter	Type	Description
unit_num	Integer	Number of GPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-195 npu

Parameter	Type	Description
unit_num	String	Number of NPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-196 memory

Parameter	Type	Description
size	Integer	Memory size.
unit	String	Memory size

Table 5-197 disk

Parameter	Type	Description
size	Integer	Disk size.
unit	String	Unit of the disk size.

Table 5-198 spec

Parameter	Type	Description
resource	Resource object	Resource flavors of a training job. Select either flavor_id or pool_id+[flavor_id] .
volumes	Array of volumes objects	Volumes attached to a training job.
log_export_path	log_export_path object	Export path of training job logs.

Table 5-199 Resource

Parameter	Type	Description
policy	String	Resource flavor mode of a training job. The value is regular .
flavor_id	String	ID of the resource flavor selected for a training job. flavor_id cannot be specified for dedicated resource pools with CPU specifications. The options for dedicated resource pools with GPU/Ascend specifications are as follows: <ul style="list-style-type: none"> • modelarts.pool.visual.xlarge (1 card) • modelarts.pool.visual.2xlarge (2 cards) • modelarts.pool.visual.4xlarge (4 cards) • modelarts.pool.visual.8xlarge (8 cards)
flavor_name	String	Read-only flavor name returned by ModelArts when flavor_id is used.
node_count	Integer	Number of resource replicas selected for a training job.
pool_id	String	Resource pool ID selected for a training job.
flavor_detail	flavor_detail object	Flavor details of a training job or algorithm. This parameter is available only for public resource pools.

Table 5-200 flavor_detail

Parameter	Type	Description
flavor_type	String	Resource flavor type. Options: <ul style="list-style-type: none"> • CPU • GPU • Ascend
billing	billing object	Billing information of a resource flavor.
flavor_info	flavor_info object	Resource flavor details.

Table 5-201 billing

Parameter	Type	Description
code	String	Billing code.
unit_num	Integer	Number of billing units.

Table 5-202 flavor_info

Parameter	Type	Description
max_num	Integer	Maximum number of nodes that can be selected. The value 1 indicates that the distributed mode is not supported.
cpu	cpu object	CPU specifications.
gpu	gpu object	GPU specifications.
npu	npu object	Ascend specifications
memory	memory object	Memory information.
disk	disk object	Disk information.

Table 5-203 cpu

Parameter	Type	Description
arch	String	CPU architecture.
core_num	Integer	Number of cores.

Table 5-204 gpu

Parameter	Type	Description
unit_num	Integer	Number of GPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-205 npu

Parameter	Type	Description
unit_num	String	Number of NPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-206 memory

Parameter	Type	Description
size	Integer	Memory size.
unit	String	Number of memory units.

Table 5-207 disk

Parameter	Type	Description
size	String	Disk size.
unit	String	Unit of the disk size. Generally, the value is GB.

Table 5-208 volumes

Parameter	Type	Description
nfs	nfs object	Volumes attached in NFS mode.

Table 5-209 nfs

Parameter	Type	Description
nfs_server_path	String	NFS server path.
local_path	String	Path for attaching volumes to the training container.
read_only	Boolean	Whether the volumes attached to the container in NFS mode are read-only.

Table 5-210 log_export_path

Parameter	Type	Description
obs_url	String	OBS URL for storing training job logs.
host_path	String	Path of the host where training job logs are stored.

Status code: 400

Table 5-211 Response body parameters

Parameter	Type	Description
error_msg	String	Error message
error_code	String	Error code
error_solution	String	Solution

Example Requests

- The following is an example of how to create a training job with free specifications. The job name has been set to **TestModelArtsJob** and the description has been set to **This is a ModelArts job**. The required algorithm's ID is **3f5d6706-7b67-408d-8ba0-ec08048c45ed**. The inputs and outputs have not been defined for the algorithm.

POST https://endpoint/v2/{project_id}/training-jobs

```
{
  "kind": "job",
  "metadata": {
    "name": "TestModelArtsJob",
    "description": "This is a ModelArts job"
  },
  "algorithm": {
    "id": "3f5d6706-7b67-408d-8ba0-ec08048c45ed",
    "parameters": [ {
      "name": "input_dir",
```

```

    "value" : "obs://cn-north-4-rse/test/moxingtest-dir/"
  }, {
    "name" : "input_file",
    "value" : "obs://cn-north-4-rse/test/moxingtest/"
  }, {
    "name" : "large_file_method",
    "value" : "1"
  } ],
  "policies" : {
    "auto_search" : null
  },
  "environments" : { }
},
"spec" : {
  "resource" : {
    "flavor_id" : "modelarts.p3.large.public.free",
    "node_count" : 1
  },
  "log_export_path" : {
    "obs_url" : ""
  }
}
}
}

```

- The following is an example of how to use a custom image to create a training job whose name is **TestModelArtsJob2** and description is **This is a ModelArts job2**. A dedicated resource pool and NFS mounting are used.

POST https://endpoint/v2/{project_id}/training-jobs

```

{
  "kind" : "job",
  "metadata" : {
    "name" : "TestModelArtsJob2",
    "description" : "This is a ModelArts job2"
  },
  "algorithm" : {
    "engine" : {
      "image_url" : "xxxxxxx/fastseq:1.2"
    },
    "command" : "cd /home/ma-user/ddp_demo && sh run_ddp.sh",
    "parameters" : [ ],
    "policies" : {
      "auto_search" : null
    },
    "environments" : {
      "NCCL_DEBUG" : "INFO",
      "NCCL_IB_DISABLE" : "0"
    }
  },
  "spec" : {
    "resource" : {
      "flavor_id" : "modelarts.pool.visual.xlarge",
      "node_count" : 1,
      "pool_id" : "poolfaf38d76"
    },
    "log_export_path" : {
      "obs_url" : "/cn-north-4-training-test/limou/ddp-demo-log/"
    },
    "volumes" : [ {
      "nfs" : {
        "nfs_server_path" : "192.168.0.82:/",
        "local_path" : "/home/ma-user/nfs/",
        "read_only" : false
      }
    } ]
  }
}
}

```

Example Responses

Status code: 201

ok

```
{
  "kind": "job",
  "metadata": {
    "id": "425b7087-83de-49ed-9e40-5bb642be956f",
    "name": "TestModelArtsJob",
    "description": "This is a ModelArts job",
    "create_time": 1637045545982,
    "workspace_id": "0",
    "user_name": ""
  },
  "status": {
    "phase": "Creating",
    "secondary_phase": "Creating",
    "duration": 0,
    "start_time": 0,
    "node_count_metrics": null,
    "tasks": [ "worker-0", "server-0" ]
  },
  "algorithm": {
    "id": "3f5d6706-7b67-408d-8ba0-ec08048c45ed",
    "name": "tst-obs-gpu",
    "code_dir": "/cn-north-4-rse/test/moxingtest-code/",
    "boot_file": "/cn-north-4-rse/test/moxingtest-code/test_obs_gpu.py",
    "parameters": [ {
      "name": "input_dir",
      "description": "",
      "i18n_description": null,
      "value": "s://cn-north-4-rse/test/moxingtest-dir/",
      "constraint": {
        "type": "String",
        "editable": true,
        "required": true,
        "sensitive": false,
        "valid_type": "None",
        "valid_range": [ ]
      }
    }, {
      "name": "input_file",
      "description": "",
      "i18n_description": null,
      "value": "obs://cn-north-4-rse/test/moxingtest/",
      "constraint": {
        "type": "String",
        "editable": true,
        "required": true,
        "sensitive": false,
        "valid_type": "None",
        "valid_range": [ ]
      }
    }
  ], {
    "name": "large_file_method",
    "description": "",
    "i18n_description": null,
    "value": "1",
    "constraint": {
      "type": "Integer",
      "editable": true,
      "required": true,
      "sensitive": false,
      "valid_type": "None",
      "valid_range": [ ]
    }
  }
}, ]
```

```

"engine": {
  "engine_id": "horovod-cp36-tf-1.16.2",
  "engine_name": "Horovod",
  "engine_version": "0.16.2-TF-1.13.1-python3.6"
},
"policies": {}
},
"spec": {
  "resource": {
    "policy": "regular",
    "flavor_id": "modelarts.p3.large.public.free",
    "flavor_name": "Computing GPU(Vnt1) instance",
    "node_count": 1,
    "flavor_detail": {
      "flavor_type": "GPU",
      "billing": {
        "code": "modelarts.vm.gpu.free",
        "unit_num": 1
      },
      "flavor_info": {
        "cpu": {
          "arch": "x86",
          "core_num": 8
        },
        "gpu": {
          "unit_num": 1,
          "product_name": "GP-Vnt1",
          "memory": "32GB"
        },
        "memory": {
          "size": 64,
          "unit": "GB"
        }
      }
    }
  },
  "log_export_path": {}
}
}

```

Status code: 400

Format of the body for a common error response. The following shows the returned information when an algorithm with ID 3f5d6706-7b67-408d-8ba0-ec08048c45ee is not found.

```

{
  "error_msg": "algorithm not found.",
  "error_code": "ModelArts.2755",
  "error_solution": "Check whether the training project information in the request is valid."
}

```

Status Codes

Status Code	Description
201	ok
400	Format of the body for a common error response. The following shows the returned information when an algorithm with ID 3f5d6706-7b67-408d-8ba0-ec08048c45ee is not found.

Error Codes

See [Error Codes](#).

5.7 Querying the Details About a Training Job

Function

This API is used to query the details about a training job.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/training-jobs/{training_job_id}

Table 5-212 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
training_job_id	Yes	String	ID of a training job.

Request Parameters

None

Response Parameters

Status code: 200

Table 5-213 Response body parameters

Parameter	Type	Description
kind	String	Training job type, which is job by default. Options: <ul style="list-style-type: none"> job: training job
metadata	JobMetadata object	Metadata of a training job.

Parameter	Type	Description
status	Status object	Status of a training job. You do not need to set this parameter when creating a job.
algorithm	JobAlgorithmResponse object	Algorithm used by a training job. The options are as follows: <ul style="list-style-type: none"> ● id: Only the algorithm ID is used. ● subscription_id+item_version_id: The subscription ID and version ID of the algorithm are used. ● code_dir+boot_file: The code directory and boot file of the training job are used.
tasks	Array of TaskResponse objects	List of tasks in heterogeneous training jobs.
spec	spec object	Specifications of a training job.

Table 5-214 JobMetadata

Parameter	Type	Description
id	String	Training job ID, which is generated and returned by ModelArts after the training job is created.
name	String	Name of a training job. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).
workspace_id	String	Workspace where a job is located. The default value is 0 .
description	String	Training job description. The value must contain 0 to 256 characters. The default value is NULL .
create_time	Long	Time when a training job was created, in milliseconds. The value is generated and returned by ModelArts after a training job is created.
user_name	String	Username for creating a training job. The username is generated and returned by ModelArts after a training job is created.

Parameter	Type	Description
annotations	Map<String,String>	Advanced configuration of a training job. Options: <ul style="list-style-type: none"> • job_template: Template RL (heterogeneous job) • fault-tolerance/job-retry-num: 3 (number of retries upon a fault)

Table 5-215 Status

Parameter	Type	Description
phase	String	Level-1 status of a training job. The options are as follows: Creating, Pending, Running, Failed, Completed, Terminating, Terminated, Abnormal.
secondary_phase	String	Level-2 status of a training job. The values are internal detailed statuses and may be added, changed, or deleted. Dependency on the status is not recommended. The options are as follows: Creating, Queuing, Running, Failed, Completed, Terminating, Terminated, CreateFailed, TerminatedFailed, Unknown, Lost.
duration	Long	Running duration of a training job, in milliseconds
node_count_metrics	Array<Array<Integer>>	Node count changes during the training job running period.
tasks	Array of strings	Tasks of a training job.
start_time	Long	Start time of a training job. The value is in timestamp format.
task_statuses	Array of task_statuses objects	Status of a training job task.
running_records	Array of running_records objects	Running and fault recovery records of a training job

Table 5-216 task_statuses

Parameter	Type	Description
task	String	Name of a training job task.
exit_code	Integer	Exit code of a training job task.
message	String	Error message of a training job task.

Table 5-217 running_records

Parameter	Type	Description
start_at	Integer	Unix timestamp of the start time in the current running record, in seconds
end_at	Integer	Unix timestamp of the end time in the current running record, in seconds
start_type	String	Startup mode of the current running record. The options are as follows: init_or_rescheduled : This startup is the first running after scheduling, including the first startup and the running after scheduling recovery. restarted : This startup is not the first running after scheduling but the running after a process restart.
end_reason	String	Reason why the current running record ends
end_related_task	String	ID of the task worker that causes the end of the current running record, for example, worker-0
end_recover	String	Fault tolerance policy used after the current running record ends. The enums are as follows: <ul style="list-style-type: none"> • npu_proc_restart: NPU in-place hot recovery • gpu_proc_restart: GPU in-place hot recovery • proc_restart: Process in-place recovery • pod_reschedule: Pod-level rescheduling • job_reschedule: Job-level rescheduling • job_reschedule_with_taint: Isolated job-level rescheduling
end_recover_before_degrade	String	Tolerance policy used after the current running record ends and before the fault tolerance policy is degraded. The options are the same as those of end_recover .

Table 5-218 JobAlgorithmResponse

Parameter	Type	Description
id	String	Algorithm used by a training job. The options are as follows: <ul style="list-style-type: none"> • id: Only the algorithm ID is used. • subscription_id+item_version_id: The subscription ID and version ID of the algorithm are used. • code_dir+boot_file: The code directory and boot file of the training job are used.
name	String	Algorithm name.
subscription_id	String	Subscription ID of a subscribed algorithm, which must be used with item_version_id
item_version_id	String	Version ID of the subscribed algorithm, which must be used with subscription_id
code_dir	String	Code directory of a training job, for example, /usr/app/ . This parameter must be used together with boot_file . If id or subscription_id+item_version_id is set, leave it blank.
boot_file	String	Boot file of a training job, which must be stored in the code directory, for example, /usr/app/boot.py . This parameter must be used with code_dir . Leave this parameter blank if id , or subscription_id and item_version_id are specified.
autosearch_config_path	String	YAML configuration path of auto search jobs. An OBS URL is required.
autosearch_framework_path	String	Framework code directory of auto search jobs. An OBS URL is required.
command	String	Boot command for starting the container of a custom image for a training job. For example, python train.py .
parameters	Array of Parameter objects	Running parameters of a training job.
policies	policies object	Policies supported by jobs.
inputs	Array of Input objects	Input of a training job.

Parameter	Type	Description
outputs	Array of Output objects	Output of a training job.
engine	engine object	Engine of a training job. Leave this parameter blank if the job is created using id of the algorithm in algorithm management, or subscription_id+item_version_id of the subscribed algorithm.
local_code_dir	String	Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: <ul style="list-style-type: none"> • The directory must be under /home. • In v1 compatibility mode, the current field does not take effect. • When code_dir is prefixed with file://, the current field does not take effect.
working_dir	String	Work directory where an algorithm is executed. Note that this parameter does not take effect in v1 compatibility mode.
environments	Array of Map<String,String> objects	Environment variables of a training job. The format is key:value . Leave this parameter blank.

Table 5-219 Parameter

Parameter	Type	Description
name	String	Parameter name.
value	String	Parameter value.
description	String	Parameter description.
constraint	constraint object	Parameter constraint.
i18n_description	i18n_description object	Internationalization description.

Table 5-220 constraint

Parameter	Type	Description
type	String	Parameter type.

Parameter	Type	Description
editable	Boolean	Whether the parameter is editable.
required	Boolean	Whether the parameter is mandatory.
sensitive	Boolean	Whether the parameter is sensitive This function is not implemented currently.
valid_type	String	Valid type.
valid_range	Array of strings	Valid range.

Table 5-221 i18n_description

Parameter	Type	Description
language	String	Language. Options: <ul style="list-style-type: none"> • zh-cn: Chinese • en-us: English
description	String	Description.

Table 5-222 policies

Parameter	Type	Description
auto_search	auto_search object	Hyperparameter search configuration.

Table 5-223 auto_search

Parameter	Type	Description
skip_search_parameters	String	Hyperparameter parameters that need to be skipped.
reward_attrs	Array of reward_attrs objects	List of search metrics.
search_parameters	Array of search_parameters objects	Search parameters.
algo_configs	Array of algo_configs objects	Search algorithm configurations.

Table 5-224 reward_attrs

Parameter	Type	Description
name	String	Metric name.
mode	String	Search mode. <ul style="list-style-type: none"> • max: A larger metric value is preferred. • min: A smaller metric value is preferred.
regex	String	Regular expression of a metric.

Table 5-225 search_params

Parameter	Type	Description
name	String	Hyperparameter name.
param_type	String	Parameter type. <ul style="list-style-type: none"> • continuous: The hyperparameter is of the continuous type. When an algorithm is used in a training job, continuous hyperparameters are displayed as text boxes on the console. • discrete: The hyperparameter is of the discrete type. When an algorithm is used in a training job, discrete hyperparameters are displayed as drop-down lists on the console.
lower_bound	String	Lower bound of the hyperparameter.
upper_bound	String	Upper bound of the hyperparameter.
discrete_points_num	String	Number of discrete points of a continuous hyperparameter.
discrete_values	Array of strings	List of discrete hyperparameter values.

Table 5-226 algo_configs

Parameter	Type	Description
name	String	Name of the search algorithm.
params	Array of AutoSearchAlgorithmConfigParameter objects	Search algorithm parameters.

Table 5-227 AutoSearchAlgoConfigParameter

Parameter	Type	Description
key	String	Parameter key.
value	String	Parameter value.
type	String	Parameter type.

Table 5-228 Input

Parameter	Type	Description
name	String	Name of the data input channel.
description	String	Description of the data input channel.
local_dir	String	Local directory of the container to which the data input channel is mapped.
remote	InputDataInfo object	Information of the data input. Enums: <ul style="list-style-type: none"> • dataset: The data input is a dataset. • obs: The data input is an OBS path.
remote_constraint	Array of remote_constraint objects	Data input constraint

Table 5-229 InputDataInfo

Parameter	Type	Description
dataset	dataset object	Dataset as the data input.
obs	obs object	OBS in which data input and output stored.

Table 5-230 dataset

Parameter	Type	Description
id	String	Dataset ID of a training job.
version_id	String	Dataset version ID of a training job.
obs_url	String	OBS URL of the dataset for a training job. It is automatically parsed by ModelArts based on the dataset ID and dataset version ID. For example, /usr/data/ .

Table 5-231 obs

Parameter	Type	Description
obs_url	String	OBS URL of the dataset required by a training job. For example, /usr/data/ .

Table 5-232 remote_constraint

Parameter	Type	Description
data_type	String	Data input type, including the data storage location and dataset.
attributes	String	Attributes if a dataset is used as the data input. Options: <ul style="list-style-type: none"> • data_format: Data format • data_segmentation: Data segmentation • dataset_type: Labeling type

Table 5-233 Output

Parameter	Type	Description
name	String	Name of the data output channel.
description	String	Description of the data output channel.
local_dir	String	Local directory of the container to which the data output channel is mapped.
remote	remote object	Description of the actual data output.

Table 5-234 remote

Parameter	Type	Description
obs	obs object	OBS to which data is actually exported.

Table 5-235 obs

Parameter	Type	Description
obs_url	String	OBS URL to which data is actually exported.

Table 5-236 engine

Parameter	Type	Description
engine_id	String	Engine ID selected for a training job. The value can be engine_id , engine_name + engine_version , or image_url .
engine_name	String	Name of the engine selected for a training job. If engine_id is set, leave this parameter blank.
engine_version	String	Name of the engine version selected for a training job. If engine_id is set, leave this parameter blank.
image_url	String	Custom image URL selected for a training job.

Table 5-237 TaskResponse

Parameter	Type	Description
role	String	Task role. This function is not supported currently.
algorithm	algorithm object	Algorithm management and configuration.
task_resource	FlavorResponse object	Flavors of a training job or an algorithm.

Table 5-238 algorithm

Parameter	Type	Description
code_dir	String	Absolute path of the directory where the algorithm boot file is stored.
boot_file	String	Absolute path of the algorithm boot file.
inputs	inputs object	Algorithm input channel.
outputs	outputs object	Algorithm output channel.
engine	engine object	Engine on which a heterogeneous job depends.

Parameter	Type	Description
local_code_dir	String	Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: <ul style="list-style-type: none"> • The directory must be under /home. • In v1 compatibility mode, the current field does not take effect. • When code_dir is prefixed with file://, the current field does not take effect.
working_dir	String	Work directory where an algorithm is executed. Note that this parameter does not take effect in v1 compatibility mode.

Table 5-239 inputs

Parameter	Type	Description
name	String	Name of the data input channel.
local_dir	String	Local path of the container to which the data input and output channels are mapped.
remote	remote object	Actual data input. Heterogeneous jobs support only OBS.

Table 5-240 remote

Parameter	Type	Description
obs	obs object	OBS in which data input and output stored.

Table 5-241 obs

Parameter	Type	Description
obs_url	String	OBS URL of the dataset required by a training job. For example, /usr/data/ .

Table 5-242 outputs

Parameter	Type	Description
name	String	Name of the data output channel.

Parameter	Type	Description
local_dir	String	Local directory of the container to which the data output channel is mapped.
remote	remote object	Description of the actual data output.
mode	String	Data transmission mode. The default value is upload_periodically .
period	String	Data transmission period. The default value is 30s .

Table 5-243 remote

Parameter	Type	Description
obs	obs object	OBS to which data is actually exported.

Table 5-244 obs

Parameter	Type	Description
obs_url	String	OBS URL to which data is exported.

Table 5-245 engine

Parameter	Type	Description
engine_id	String	Engine ID of a heterogeneous job, for example, caffe-1.0.0-python2.7 .
engine_name	String	Engine name of a heterogeneous job, for example, Caffe .
engine_version	String	Engine version of a heterogeneous job.
v1_compatible	Boolean	Whether the v1 compatibility mode is used.
run_user	String	User UID started by default by the engine.
image_url	String	Custom image URL selected by an algorithm.

Table 5-246 FlavorResponse

Parameter	Type	Description
flavor_id	String	ID of the resource flavor.
flavor_name	String	Name of the resource flavor.
max_num	Integer	Maximum number of nodes in a resource flavor.
flavor_type	String	Resource flavor type. Options: <ul style="list-style-type: none"> • CPU • GPU • Ascend
billing	billing object	Billing information of a resource flavor.
flavor_info	flavor_info object	Resource flavor details.
attributes	Map<String,String>	Other specification attributes.

Table 5-247 billing

Parameter	Type	Description
code	String	Billing code.
unit_num	Integer	Number of billing units.

Table 5-248 flavor_info

Parameter	Type	Description
max_num	Integer	Maximum number of nodes that can be selected. The value 1 indicates that the distributed mode is not supported.
cpu	cpu object	CPU specifications.
gpu	gpu object	GPU specifications.
npu	npu object	Ascend specifications
memory	memory object	Memory information.
disk	disk object	Disk information.

Table 5-249 cpu

Parameter	Type	Description
arch	String	CPU architecture.
core_num	Integer	Number of cores.

Table 5-250 gpu

Parameter	Type	Description
unit_num	Integer	Number of GPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-251 npu

Parameter	Type	Description
unit_num	String	Number of NPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-252 memory

Parameter	Type	Description
size	Integer	Memory size.
unit	String	Memory size

Table 5-253 disk

Parameter	Type	Description
size	Integer	Disk size.
unit	String	Unit of the disk size.

Table 5-254 spec

Parameter	Type	Description
resource	Resource object	Resource flavors of a training job. Select either flavor_id or pool_id+[flavor_id] .
volumes	Array of volumes objects	Volumes attached to a training job.
log_export_path	log_export_path object	Export path of training job logs.

Table 5-255 Resource

Parameter	Type	Description
policy	String	Resource flavor mode of a training job. The value is regular .
flavor_id	String	ID of the resource flavor selected for a training job. flavor_id cannot be specified for dedicated resource pools with CPU specifications. The options for dedicated resource pools with GPU/Ascend specifications are as follows: <ul style="list-style-type: none"> • modelarts.pool.visual.xlarge (1 card) • modelarts.pool.visual.2xlarge (2 cards) • modelarts.pool.visual.4xlarge (4 cards) • modelarts.pool.visual.8xlarge (8 cards)
flavor_name	String	Read-only flavor name returned by ModelArts when flavor_id is used.
node_count	Integer	Number of resource replicas selected for a training job.
pool_id	String	Resource pool ID selected for a training job.
flavor_detail	flavor_detail object	Flavor details of a training job or algorithm. This parameter is available only for public resource pools.

Table 5-256 flavor_detail

Parameter	Type	Description
flavor_type	String	Resource flavor type. Options: <ul style="list-style-type: none"> • CPU • GPU • Ascend
billing	billing object	Billing information of a resource flavor.
flavor_info	flavor_info object	Resource flavor details.

Table 5-257 billing

Parameter	Type	Description
code	String	Billing code.
unit_num	Integer	Number of billing units.

Table 5-258 flavor_info

Parameter	Type	Description
max_num	Integer	Maximum number of nodes that can be selected. The value 1 indicates that the distributed mode is not supported.
cpu	cpu object	CPU specifications.
gpu	gpu object	GPU specifications.
npu	npu object	Ascend specifications
memory	memory object	Memory information.
disk	disk object	Disk information.

Table 5-259 cpu

Parameter	Type	Description
arch	String	CPU architecture.
core_num	Integer	Number of cores.

Table 5-260 gpu

Parameter	Type	Description
unit_num	Integer	Number of GPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-261 npu

Parameter	Type	Description
unit_num	String	Number of NPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-262 memory

Parameter	Type	Description
size	Integer	Memory size.
unit	String	Number of memory units.

Table 5-263 disk

Parameter	Type	Description
size	String	Disk size.
unit	String	Unit of the disk size. Generally, the value is GB.

Table 5-264 volumes

Parameter	Type	Description
nfs	nfs object	Volumes attached in NFS mode.

Table 5-265 nfs

Parameter	Type	Description
nfs_server_path	String	NFS server path.
local_path	String	Path for attaching volumes to the training container.
read_only	Boolean	Whether the volumes attached to the container in NFS mode are read-only.

Table 5-266 log_export_path

Parameter	Type	Description
obs_url	String	OBS URL for storing training job logs.
host_path	String	Path of the host where training job logs are stored.

Example Requests

The following shows how to query a training job whose UUID is **3faf5c03-aaa1-4cbe-879d-24b05d997347**.

GET https://endpoint/v2/{project_id}/training-jobs/3faf5c03-aaa1-4cbe-879d-24b05d997347

Example Responses

Status code: 200

ok

```
{
  "kind": "job",
  "metadata": {
    "id": "3faf5c03-aaa1-4cbe-879d-24b05d997347",
    "name": "trainjob--py14_mem06-108",
    "description": "",
    "create_time": 1636447346315,
    "workspace_id": "0",
    "user_name": ""
  },
  "status": {
    "phase": "Abnormal",
    "secondary_phase": "CreateFailed",
    "duration": 0,
    "start_time": 0,
    "node_count_metrics": [ [ 1636447746000, 0 ], [ 1636447755000, 0 ], [ 1636447756000, 0 ] ],
    "tasks": [ "worker-0" ],
    "running_records": [ {
      "start_at": 1701327093,
      "end_at": 1701322341,
      "start_type": "init_or_rescheduled",
      "end_recover": "job_reschedule",
      "end_reason": "exit with 127",
    }
  ]
}
```

```
"end_related_task": "worker-2",
"end_recover_before_downgrade": "npu_proc_restart"
}, {
  "start_at": 1701323345,
  "end_at": 1701325432,
  "start_type": "init_or_rescheduled",
  "end_reason": "job completed"
}]
},
"algorithm": {
  "code_dir": "obs://test/economic_test/py_minist/",
  "boot_file": "obs://test/economic_test/py_minist/minist_common.py",
  "inputs": [ {
    "name": "data_url",
    "local_dir": "/home/ma-user/modelarts/inputs/data_url_0",
    "remote": {
      "obs": {
        "obs_url": "/test/data/py_minist/"
      }
    }
  } ],
  "outputs": [ {
    "name": "train_url",
    "local_dir": "/home/ma-user/modelarts/outputs/train_url_0",
    "remote": {
      "obs": {
        "obs_url": "/test/train_output/"
      }
    }
  } ],
  "engine": {
    "engine_id": "pytorch-cp36-1.4.0-v2",
    "engine_name": "PyTorch",
    "engine_version": "PyTorch-1.4.0-python3.6-v2"
  }
},
"spec": {
  "resource": {
    "flavor_id": "modelarts.vm.pnt1.large.eco",
    "node_count": 1,
    "flavor_detail": {
      "flavor_type": "GPU",
      "billing": {
        "code": "modelarts.vm.gpu.pnt1.eco",
        "unit_num": 1
      }
    },
    "flavor_info": {
      "cpu": {
        "arch": "x86",
        "core_num": 8
      },
      "gpu": {
        "unit_num": 1,
        "memory": "8GB"
      },
      "memory": {
        "size": 64,
        "unit": "GB"
      }
    }
  }
}
}
```

Status Codes

Status Code	Description
200	ok

Error Codes

See [Error Codes](#).

5.8 Modifying the Description of a Training Job

Function

This API is used to modify the description of a training job.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v2/{project_id}/training-jobs/{training_job_id}

Table 5-267 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
training_job_id	Yes	String	ID of a training job.

Request Parameters

Table 5-268 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	Training job description, which consists of 0 to 256 characters. The default value is NULL .

Response Parameters

None

Example Requests

The following shows how to modify a training job with UUID **3faf5c03-aaa1-4cbe-879d-24b05d997347**. After the modification, call the API for obtaining a training job(ListTrainingJobs.xml) to view the modified description.

```
PUT https://endpoint/v2/{project_id}/training-jobs/3faf5c03-aaa1-4cbe-879d-24b05d997347
{
  "description" : "hahaha"
}
```

Example Responses

Status code: 200

No Content

```
null
```

Status Codes

Status Code	Description
200	No Content

Error Codes

See [Error Codes](#).

5.9 Deleting a Training Job

Function

This API is used to delete a training job.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

```
DELETE /v2/{project_id}/training-jobs/{training_job_id}
```

Table 5-269 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
training_job_id	Yes	String	ID of a training job.

Request Parameters

None

Response Parameters

None

Example Requests

The following shows how to delete a training job whose UUID is **3faf5c03-aaa1-4cbe-879d-24b05d997347**.

```
DELETE https://endpoint/v2/{project_id}/training-jobs/3faf5c03-aaa1-4cbe-879d-24b05d997347
```

Example Responses

Status code: 202

No Content

```
""
```

Status Codes

Status Code	Description
202	No Content

Error Codes

See [Error Codes](#).

5.10 Terminating a Training Job

Function

This API is used to terminate a training job. Only jobs in the creating, awaiting, or running state can be terminated.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/training-jobs/{training_job_id}/actions

Table 5-270 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
training_job_id	Yes	String	ID of a training job.

Request Parameters

Table 5-271 Request body parameters

Parameter	Mandatory	Type	Description
action_type	Yes	String	Operation request for a training job. If this parameter is set to terminate, the training job is terminated.

Response Parameters

Status code: 202

Table 5-272 Response body parameters

Parameter	Type	Description
kind	String	Training job type, which is job by default. Options: <ul style="list-style-type: none"> job: training job
metadata	JobMetadata object	Metadata of a training job.
status	Status object	Status of a training job. You do not need to set this parameter when creating a job.

Parameter	Type	Description
algorithm	JobAlgorithmResponse object	Algorithm used by a training job. The options are as follows: <ul style="list-style-type: none"> • id: Only the algorithm ID is used. • subscription_id+item_version_id: The subscription ID and version ID of the algorithm are used. • code_dir+boot_file: The code directory and boot file of the training job are used.
tasks	Array of TaskResponse objects	List of tasks in heterogeneous training jobs.
spec	spec object	Specifications of a training job.

Table 5-273 JobMetadata

Parameter	Type	Description
id	String	Training job ID, which is generated and returned by ModelArts after the training job is created.
name	String	Name of a training job. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).
workspace_id	String	Workspace where a job is located. The default value is 0 .
description	String	Training job description. The value must contain 0 to 256 characters. The default value is NULL .
create_time	Long	Time when a training job was created, in milliseconds. The value is generated and returned by ModelArts after a training job is created.
user_name	String	Username for creating a training job. The username is generated and returned by ModelArts after a training job is created.
annotations	Map<String,String>	Advanced configuration of a training job. Options: <ul style="list-style-type: none"> • job_template: Template RL (heterogeneous job) • fault-tolerance/job-retry-num: 3 (number of retries upon a fault)

Table 5-274 Status

Parameter	Type	Description
phase	String	Level-1 status of a training job. The options are as follows: Creating, Pending, Running, Failed, Completed, Terminating, Terminated, Abnormal.
secondary_phase	String	Level-2 status of a training job. The values are internal detailed statuses and may be added, changed, or deleted. Dependency on the status is not recommended. The options are as follows: Creating, Queuing, Running, Failed, Completed, Terminating, Terminated, CreateFailed, TerminatedFailed, Unknown, Lost.
duration	Long	Running duration of a training job, in milliseconds
node_count_metrics	Array<Array<Integer>>	Node count changes during the training job running period.
tasks	Array of strings	Tasks of a training job.
start_time	Long	Start time of a training job. The value is in timestamp format.
task_statuses	Array of task_statuses objects	Status of a training job task.
running_records	Array of running_records objects	Running and fault recovery records of a training job

Table 5-275 task_statuses

Parameter	Type	Description
task	String	Name of a training job task.
exit_code	Integer	Exit code of a training job task.
message	String	Error message of a training job task.

Table 5-276 running_records

Parameter	Type	Description
start_at	Integer	Unix timestamp of the start time in the current running record, in seconds
end_at	Integer	Unix timestamp of the end time in the current running record, in seconds
start_type	String	Startup mode of the current running record. The options are as follows: init_or_rescheduled : This startup is the first running after scheduling, including the first startup and the running after scheduling recovery. restarted : This startup is not the first running after scheduling but the running after a process restart.
end_reason	String	Reason why the current running record ends
end_related_task	String	ID of the task worker that causes the end of the current running record, for example, worker-0
end_recover	String	Fault tolerance policy used after the current running record ends. The enums are as follows: <ul style="list-style-type: none"> • npu_proc_restart: NPU in-place hot recovery • gpu_proc_restart: GPU in-place hot recovery • proc_restart: Process in-place recovery • pod_reschedule: Pod-level rescheduling • job_reschedule: Job-level rescheduling • job_reschedule_with_taint: Isolated job-level rescheduling
end_recover_before_downgrade	String	Tolerance policy used after the current running record ends and before the fault tolerance policy is degraded. The options are the same as those of end_recover .

Table 5-277 JobAlgorithmResponse

Parameter	Type	Description
id	String	Algorithm used by a training job. The options are as follows: <ul style="list-style-type: none"> • id: Only the algorithm ID is used. • subscription_id+item_version_id: The subscription ID and version ID of the algorithm are used. • code_dir+boot_file: The code directory and boot file of the training job are used.
name	String	Algorithm name.
subscription_id	String	Subscription ID of a subscribed algorithm, which must be used with item_version_id
item_version_id	String	Version ID of the subscribed algorithm, which must be used with subscription_id
code_dir	String	Code directory of a training job, for example, /usr/app/ . This parameter must be used together with boot_file . If id or subscription_id+item_version_id is set, leave it blank.
boot_file	String	Boot file of a training job, which must be stored in the code directory, for example, /usr/app/boot.py . This parameter must be used with code_dir . Leave this parameter blank if id , or subscription_id and item_version_id are specified.
autosearch_config_path	String	YAML configuration path of auto search jobs. An OBS URL is required.
autosearch_framework_path	String	Framework code directory of auto search jobs. An OBS URL is required.
command	String	Boot command for starting the container of a custom image for a training job. For example, python train.py .
parameters	Array of Parameter objects	Running parameters of a training job.
policies	policies object	Policies supported by jobs.
inputs	Array of Input objects	Input of a training job.

Parameter	Type	Description
outputs	Array of Output objects	Output of a training job.
engine	engine object	Engine of a training job. Leave this parameter blank if the job is created using id of the algorithm in algorithm management, or subscription_id+item_version_id of the subscribed algorithm.
local_code_dir	String	Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: <ul style="list-style-type: none"> • The directory must be under /home. • In v1 compatibility mode, the current field does not take effect. • When code_dir is prefixed with file://, the current field does not take effect.
working_dir	String	Work directory where an algorithm is executed. Note that this parameter does not take effect in v1 compatibility mode.
environments	Array of Map<String,String> objects	Environment variables of a training job. The format is key:value . Leave this parameter blank.

Table 5-278 Parameter

Parameter	Type	Description
name	String	Parameter name.
value	String	Parameter value.
description	String	Parameter description.
constraint	constraint object	Parameter constraint.
i18n_description	i18n_description object	Internationalization description.

Table 5-279 constraint

Parameter	Type	Description
type	String	Parameter type.

Parameter	Type	Description
editable	Boolean	Whether the parameter is editable.
required	Boolean	Whether the parameter is mandatory.
sensitive	Boolean	Whether the parameter is sensitive This function is not implemented currently.
valid_type	String	Valid type.
valid_range	Array of strings	Valid range.

Table 5-280 i18n_description

Parameter	Type	Description
language	String	Language. Options: <ul style="list-style-type: none"> • zh-cn: Chinese • en-us: English
description	String	Description.

Table 5-281 policies

Parameter	Type	Description
auto_search	auto_search object	Hyperparameter search configuration.

Table 5-282 auto_search

Parameter	Type	Description
skip_search_parameters	String	Hyperparameter parameters that need to be skipped.
reward_attrs	Array of reward_attrs objects	List of search metrics.
search_parameters	Array of search_parameters objects	Search parameters.
algo_configs	Array of algo_configs objects	Search algorithm configurations.

Table 5-283 reward_attrs

Parameter	Type	Description
name	String	Metric name.
mode	String	Search mode. <ul style="list-style-type: none"> • max: A larger metric value is preferred. • min: A smaller metric value is preferred.
regex	String	Regular expression of a metric.

Table 5-284 search_params

Parameter	Type	Description
name	String	Hyperparameter name.
param_type	String	Parameter type. <ul style="list-style-type: none"> • continuous: The hyperparameter is of the continuous type. When an algorithm is used in a training job, continuous hyperparameters are displayed as text boxes on the console. • discrete: The hyperparameter is of the discrete type. When an algorithm is used in a training job, discrete hyperparameters are displayed as drop-down lists on the console.
lower_bound	String	Lower bound of the hyperparameter.
upper_bound	String	Upper bound of the hyperparameter.
discrete_points_num	String	Number of discrete points of a continuous hyperparameter.
discrete_values	Array of strings	List of discrete hyperparameter values.

Table 5-285 algo_configs

Parameter	Type	Description
name	String	Name of the search algorithm.
params	Array of AutoSearchAlgorithmConfigParameter objects	Search algorithm parameters.

Table 5-286 AutoSearchAlgoConfigParameter

Parameter	Type	Description
key	String	Parameter key.
value	String	Parameter value.
type	String	Parameter type.

Table 5-287 Input

Parameter	Type	Description
name	String	Name of the data input channel.
description	String	Description of the data input channel.
local_dir	String	Local directory of the container to which the data input channel is mapped.
remote	InputDataInfo object	Information of the data input. Enums: <ul style="list-style-type: none"> • dataset: The data input is a dataset. • obs: The data input is an OBS path.
remote_constraint	Array of remote_constraint objects	Data input constraint

Table 5-288 InputDataInfo

Parameter	Type	Description
dataset	dataset object	Dataset as the data input.
obs	obs object	OBS in which data input and output stored.

Table 5-289 dataset

Parameter	Type	Description
id	String	Dataset ID of a training job.
version_id	String	Dataset version ID of a training job.
obs_url	String	OBS URL of the dataset for a training job. It is automatically parsed by ModelArts based on the dataset ID and dataset version ID. For example, /usr/data/ .

Table 5-290 obs

Parameter	Type	Description
obs_url	String	OBS URL of the dataset required by a training job. For example, /usr/data/ .

Table 5-291 remote_constraint

Parameter	Type	Description
data_type	String	Data input type, including the data storage location and dataset.
attributes	String	Attributes if a dataset is used as the data input. Options: <ul style="list-style-type: none"> • data_format: Data format • data_segmentation: Data segmentation • dataset_type: Labeling type

Table 5-292 Output

Parameter	Type	Description
name	String	Name of the data output channel.
description	String	Description of the data output channel.
local_dir	String	Local directory of the container to which the data output channel is mapped.
remote	remote object	Description of the actual data output.

Table 5-293 remote

Parameter	Type	Description
obs	obs object	OBS to which data is actually exported.

Table 5-294 obs

Parameter	Type	Description
obs_url	String	OBS URL to which data is actually exported.

Table 5-295 engine

Parameter	Type	Description
engine_id	String	Engine ID selected for a training job. The value can be engine_id , engine_name + engine_version , or image_url .
engine_name	String	Name of the engine selected for a training job. If engine_id is set, leave this parameter blank.
engine_version	String	Name of the engine version selected for a training job. If engine_id is set, leave this parameter blank.
image_url	String	Custom image URL selected for a training job.

Table 5-296 TaskResponse

Parameter	Type	Description
role	String	Task role. This function is not supported currently.
algorithm	algorithm object	Algorithm management and configuration.
task_resource	FlavorResponse object	Flavors of a training job or an algorithm.

Table 5-297 algorithm

Parameter	Type	Description
code_dir	String	Absolute path of the directory where the algorithm boot file is stored.
boot_file	String	Absolute path of the algorithm boot file.
inputs	inputs object	Algorithm input channel.
outputs	outputs object	Algorithm output channel.
engine	engine object	Engine on which a heterogeneous job depends.

Parameter	Type	Description
local_code_dir	String	Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: <ul style="list-style-type: none"> • The directory must be under /home. • In v1 compatibility mode, the current field does not take effect. • When code_dir is prefixed with file://, the current field does not take effect.
working_dir	String	Work directory where an algorithm is executed. Note that this parameter does not take effect in v1 compatibility mode.

Table 5-298 inputs

Parameter	Type	Description
name	String	Name of the data input channel.
local_dir	String	Local path of the container to which the data input and output channels are mapped.
remote	remote object	Actual data input. Heterogeneous jobs support only OBS.

Table 5-299 remote

Parameter	Type	Description
obs	obs object	OBS in which data input and output stored.

Table 5-300 obs

Parameter	Type	Description
obs_url	String	OBS URL of the dataset required by a training job. For example, /usr/data/ .

Table 5-301 outputs

Parameter	Type	Description
name	String	Name of the data output channel.

Parameter	Type	Description
local_dir	String	Local directory of the container to which the data output channel is mapped.
remote	remote object	Description of the actual data output.
mode	String	Data transmission mode. The default value is upload_periodically .
period	String	Data transmission period. The default value is 30s .

Table 5-302 remote

Parameter	Type	Description
obs	obs object	OBS to which data is actually exported.

Table 5-303 obs

Parameter	Type	Description
obs_url	String	OBS URL to which data is exported.

Table 5-304 engine

Parameter	Type	Description
engine_id	String	Engine ID of a heterogeneous job, for example, caffe-1.0.0-python2.7 .
engine_name	String	Engine name of a heterogeneous job, for example, Caffe .
engine_version	String	Engine version of a heterogeneous job.
v1_compatible	Boolean	Whether the v1 compatibility mode is used.
run_user	String	User UID started by default by the engine.
image_url	String	Custom image URL selected by an algorithm.

Table 5-305 FlavorResponse

Parameter	Type	Description
flavor_id	String	ID of the resource flavor.
flavor_name	String	Name of the resource flavor.
max_num	Integer	Maximum number of nodes in a resource flavor.
flavor_type	String	Resource flavor type. Options: <ul style="list-style-type: none"> • CPU • GPU • Ascend
billing	billing object	Billing information of a resource flavor.
flavor_info	flavor_info object	Resource flavor details.
attributes	Map<String,String>	Other specification attributes.

Table 5-306 billing

Parameter	Type	Description
code	String	Billing code.
unit_num	Integer	Number of billing units.

Table 5-307 flavor_info

Parameter	Type	Description
max_num	Integer	Maximum number of nodes that can be selected. The value 1 indicates that the distributed mode is not supported.
cpu	cpu object	CPU specifications.
gpu	gpu object	GPU specifications.
npu	npu object	Ascend specifications
memory	memory object	Memory information.
disk	disk object	Disk information.

Table 5-308 cpu

Parameter	Type	Description
arch	String	CPU architecture.
core_num	Integer	Number of cores.

Table 5-309 gpu

Parameter	Type	Description
unit_num	Integer	Number of GPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-310 npu

Parameter	Type	Description
unit_num	String	Number of NPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-311 memory

Parameter	Type	Description
size	Integer	Memory size.
unit	String	Memory size

Table 5-312 disk

Parameter	Type	Description
size	Integer	Disk size.
unit	String	Unit of the disk size.

Table 5-313 spec

Parameter	Type	Description
resource	Resource object	Resource flavors of a training job. Select either flavor_id or pool_id+[flavor_id] .
volumes	Array of volumes objects	Volumes attached to a training job.
log_export_path	log_export_path object	Export path of training job logs.

Table 5-314 Resource

Parameter	Type	Description
policy	String	Resource flavor mode of a training job. The value is regular .
flavor_id	String	ID of the resource flavor selected for a training job. flavor_id cannot be specified for dedicated resource pools with CPU specifications. The options for dedicated resource pools with GPU/Ascend specifications are as follows: <ul style="list-style-type: none"> • modelarts.pool.visual.xlarge (1 card) • modelarts.pool.visual.2xlarge (2 cards) • modelarts.pool.visual.4xlarge (4 cards) • modelarts.pool.visual.8xlarge (8 cards)
flavor_name	String	Read-only flavor name returned by ModelArts when flavor_id is used.
node_count	Integer	Number of resource replicas selected for a training job.
pool_id	String	Resource pool ID selected for a training job.
flavor_detail	flavor_detail object	Flavor details of a training job or algorithm. This parameter is available only for public resource pools.

Table 5-315 flavor_detail

Parameter	Type	Description
flavor_type	String	Resource flavor type. Options: <ul style="list-style-type: none"> • CPU • GPU • Ascend
billing	billing object	Billing information of a resource flavor.
flavor_info	flavor_info object	Resource flavor details.

Table 5-316 billing

Parameter	Type	Description
code	String	Billing code.
unit_num	Integer	Number of billing units.

Table 5-317 flavor_info

Parameter	Type	Description
max_num	Integer	Maximum number of nodes that can be selected. The value 1 indicates that the distributed mode is not supported.
cpu	cpu object	CPU specifications.
gpu	gpu object	GPU specifications.
npu	npu object	Ascend specifications
memory	memory object	Memory information.
disk	disk object	Disk information.

Table 5-318 cpu

Parameter	Type	Description
arch	String	CPU architecture.
core_num	Integer	Number of cores.

Table 5-319 gpu

Parameter	Type	Description
unit_num	Integer	Number of GPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-320 npu

Parameter	Type	Description
unit_num	String	Number of NPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-321 memory

Parameter	Type	Description
size	Integer	Memory size.
unit	String	Number of memory units.

Table 5-322 disk

Parameter	Type	Description
size	String	Disk size.
unit	String	Unit of the disk size. Generally, the value is GB.

Table 5-323 volumes

Parameter	Type	Description
nfs	nfs object	Volumes attached in NFS mode.

Table 5-324 nfs

Parameter	Type	Description
nfs_server_path	String	NFS server path.
local_path	String	Path for attaching volumes to the training container.
read_only	Boolean	Whether the volumes attached to the container in NFS mode are read-only.

Table 5-325 log_export_path

Parameter	Type	Description
obs_url	String	OBS URL for storing training job logs.
host_path	String	Path of the host where training job logs are stored.

Example Requests

The following is an example of how to stop the training job whose UUID is **3faf5c03-aaa1-4cbe-879d-24b05d997347**.

```
POST https://endpoint/v2/{project_id}/training-jobs/cf63aba9-63b1-4219-b717-708a2665100b/actions
{
  "action_type": "terminate"
}
```

Example Responses

Status code: 202

ok

```
{
  "kind": "job",
  "metadata": {
    "id": "cf63aba9-63b1-4219-b717-708a2665100b",
    "name": "trainjob--py14_mem06-110",
    "description": "",
    "create_time": 163651522282,
    "workspace_id": "0",
    "user_name": "ei_modelarts_z00424192_01"
  },
  "status": {
    "phase": "Terminating",
    "secondary_phase": "Terminating",
    "duration": 0,
    "start_time": 0,
    "node_count_metrics": null,
    "tasks": [ "worker-0" ]
  },
  "algorithm": {
```



```
"code_dir" : "obs://test/economic_test/py_minist/",  
"boot_file" : "obs://test/economic_test/py_minist/minist_common.py",  
"inputs" : [ {  
  "name" : "data_url",  
  "local_dir" : "/home/ma-user/modelarts/inputs/data_url_0",  
  "remote" : {  
    "obs" : {  
      "obs_url" : "/test/data/py_minist/"  
    }  
  }  
},  
],  
"outputs" : [ {  
  "name" : "train_url",  
  "local_dir" : "/home/ma-user/modelarts/outputs/train_url_0",  
  "remote" : {  
    "obs" : {  
      "obs_url" : "/test/train_output/"  
    }  
  }  
},  
],  
"engine" : {  
  "engine_id" : "pytorch-cp36-1.4.0-v2",  
  "engine_name" : "PyTorch",  
  "engine_version" : "PyTorch-1.4.0-python3.6-v2"  
},  
},  
"spec" : {  
  "resource" : {  
    "policy" : "economic",  
    "flavor_id" : "modelarts.vm.pnt1.large.eco",  
    "flavor_name" : "Computing GPU(Pnt1) instance",  
    "node_count" : 1,  
    "flavor_detail" : {  
      "flavor_type" : "GPU",  
      "billing" : {  
        "code" : "modelarts.vm.gpu.pnt1.eco",  
        "unit_num" : 1  
      },  
      "flavor_info" : {  
        "cpu" : {  
          "arch" : "x86",  
          "core_num" : 8  
        },  
        "gpu" : {  
          "unit_num" : 1,  
          "product_name" : "GP-Pnt1",  
          "memory" : "8GB"  
        },  
        "memory" : {  
          "size" : 64,  
          "unit" : "GB"  
        }  
      }  
    }  
  }  
},  
}
```

Status Codes

Status Code	Description
202	ok

Error Codes

See [Error Codes](#).

5.11 Querying the Logs of a Specified Task in a Given Training Job (Preview)

Function

This API is used to query the logs of a specified task in a given training job (preview).

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/training-jobs/{training_job_id}/tasks/{task_id}/logs/preview

Table 5-326 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
training_job_id	Yes	String	ID of a training job.
task_id	Yes	String	Name of a training job. You can obtain the value from the status.tasks field in the training job details.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
training_job_id	Yes	String	ID of a training job.
task_id	Yes	String	Name of a training job. You can obtain the value from the status.tasks field in the training job details.

Request Parameters

None

Response Parameters

Status code: 200

Table 5-327 Response body parameters

Parameter	Type	Description
content	String	Log content. If the size of a log file does not exceed the upper limit (n MB), all the log files are returned. Otherwise, the latest log file (n MB) is returned. After 2022/03/01 00:00:00 (GMT+08:00), the parameter name is changed from context to content.
current_size	Integer	Size of the returned log content, in bytes. The maximum size is 5 MB.
full_size	Integer	Size of complete log content, in bytes

Example Requests

The following shows how to obtain the worker-0 logs of the training job whose UUID is **2cd88daa-31a4-40a8-a58f-d186b0e93e4f**.

```
GET https://endpoint/v2/{project_id}/training-jobs/2cd88daa-31a4-40a8-a58f-d186b0e93e4f/tasks/worker-0/logs/preview
```

Example Responses

Status code: 200

ok

```
{
  "content" : "[Modelarts Service Log]collect and upload ascend logs end at
2021-05-18-14:28:13\n[Modelarts Service Log]exiting.: \n [Modelarts Service Log]exiting...\n[Modelarts
Service Log]exiting.: \n [Modelarts Service Log]exiting...\n[Modelarts Service Log]exit with : \n [Modelarts
Service Log]exit with 0\n[Modelarts Service Log]exit with : \n [Modelarts Service Log]exit with
0\n[ModelArts Service Log][INFO][2021/05/18 14:28:14,207]:\n output-handler finalizing due to: [training
finished]\n[ModelArts Service Log][INFO][2021/05/18 14:28:14,207]:\n output-handler finalized
\n[Modelarts Service Log][sidecar] exiting at 2021-05-18-14:28:14\n[Modelarts Service Log][sidecar] wait
python processes exit.: \n [Modelarts Service Log][sidecar] wait python processes exit...\n[Modelarts
Service Log][sidecar] exit with :\n [Modelarts Service Log][sidecar] exit with 0",
  "current_size" : 126548,
  "full_size" : 5242880
}
```

Status Codes

Status Code	Description
200	ok

Error Codes

See [Error Codes](#).

5.12 Querying the Logs of a Specified Task in a Training Job (OBS Link)

Function

This API is used to obtain the logs of a specified task of a training job (temporary OBS link, which is valid for 5 minutes). You can view all logs or download the logs.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/training-jobs/{training_job_id}/tasks/{task_id}/logs/url

Table 5-328 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
training_job_id	Yes	String	ID of a training job.
task_id	Yes	String	Name of a training job. You can obtain the value from the status.tasks field in the training job details.

Request Parameters

Table 5-329 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	No	String	Message body type. If this parameter is set to text/plain, the temporary preview link is returned. Set this parameter to application/octet-stream. A temporary download link is returned.

Response Parameters

Status code: 200

Table 5-330 Response body parameters

Parameter	Type	Description
obs_url	String	Temporary OBS URL of logs. You can copy the URL to the browser to view the current complete logs.

Example Requests

The following shows how to query the temporary OBS URL for the **work-0** tasks of the training job whose UUID is **2cd88daa-31a4-40a8-a58f-d186b0e93e4f**.

```
GET https://endpoint/v2/{project_id}/training-jobs/2cd88daa-31a4-40a8-a58f-d186b0e93e4f/tasks/worker-0/logs/url?Content-Type=text/plain
```

Example Responses

Status code: 200

ok

```
{
  "obs_url" : "http://10.155.101.248:20000/cnnorth4-test/xk/00chess_test/test11/logs/modelarts-job-0f2ccdbb-4f34-4d53-afb9-d526f3be8c68-ma-platform-init-worker-0-172.16.24.51-01909681.log?AWSAccessKeyId=xxxxx"
}
```

Status Codes

Status Code	Description
200	ok

Error Codes

See [Error Codes](#).

5.13 Querying the Running Metrics of a Specified Task in a Training Job

Function

This API is used to query the running metrics of a specified task in a training job.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/training-jobs/{training_job_id}/metrics/{task_id}

Table 5-331 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
training_job_id	Yes	String	ID of a training job.
task_id	Yes	String	Name of a training job. You can obtain the value from the status.tasks field in the training job details.

Request Parameters

None

Response Parameters

Status code: 200

Table 5-332 Response body parameters

Parameter	Type	Description
metrics	Array of metrics objects	Running metrics.

Table 5-333 metrics

Parameter	Type	Description
metric	String	Running metric. The options are as follows: <ul style="list-style-type: none"> • cpuUsage: CPU usage • memUsage: indicates the physical memory usage. • gpuUtil: GPU usage • gpuMemUsage: GPU memory usage • npuUtil: NPU usage • npuMemUsage: NPU GPU memory usage
value	Array of doubles	Value of a running metric. An average value is collected every minute.

Example Requests

The following shows how to query the running metrics of the **work-0** task of the training job whose UUID is **2cd88daa-31a4-40a8-a58f-d186b0e93e4f**.

```
GET https://endpoint/v2/{project_id}/training-jobs/2cd88daa-31a4-40a8-a58f-d186b0e93e4f/metrics/worker-0
```

Example Responses

Status code: 200

ok

```
{
  "metrics": [ {
    "metric": "cpuUsage",
    "value": [ -1, -1, 2.43, 4.524, 6.714, 12.422, 9.214, 5.36, 7.5, 10.088, 8.975, 11.423, 11.548, 14.563,
16.833 ]
  }, {
    "metric": "memUsage",
    "value": [ -1, -1, 0.04, 0.521, 1.652, 4.252, 6.433, 7.384, 7.982, 8.718, 9.365, 9.881, 10.192, 9.994, 9.005 ]
  }, {
    "metric": "gpuUtil",
    "value": [ -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1 ]
  }, {
    "metric": "gpuMemUsage",
    "value": [ -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1 ]
  }, {
    "metric": "npuUtil",
```

```
"value": [ -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1 ]  
}, {  
  "metric": "npuMemUsage",  
  "value": [ -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1 ]  
}]  
}
```

Status Codes

Status Code	Description
200	ok

Error Codes

See [Error Codes](#).

5.14 Querying a Training Job List

Function

This API is used to query the the created training jobs that meet the search criteria.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/training-job-searches

Table 5-334 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 5-335 Request body parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Number of pages for querying jobs. The minimum value is 0 . For example, if this parameter is set to 0 , the query starts from the first page.
limit	No	Integer	Number of records on each page for querying jobs. The value ranges from 1 to 50 .
sort_by	No	String	Metric for sorting jobs to be queried. create_time is used by default for sorting.
order	No	String	Order of queried jobs. The default value is desc , indicating the descending order. You can also set this parameter to asc , indicating the ascending order.
group_by	No	String	Condition for grouping the jobs to be queried.
filters	No	Array of filters objects	Filters for querying jobs.

Table 5-336 filters

Parameter	Mandatory	Type	Description
key	No	String	Grouping condition key.
operator	No	String	Grouping condition key-value relationship. The options are between (range), like (similar), in (included), and not (not).
value	No	Array of strings	Value of the grouping condition key.

Response Parameters

Status code: 200

Table 5-337 Response body parameters

Parameter	Type	Description
total	Integer	Total number of queried jobs of the current user.
count	Integer	Total number of jobs that meet the search criteria of the current user.
limit	Integer	Number of records on each page for querying jobs. The value ranges from 1 to 50 .
offset	Integer	Number of pages for querying jobs. The minimum value is 0 . For example, if this parameter is set to 0 , the query starts from the first page.
sort_by	String	Metric for sorting jobs to be queried. create_time is used by default for sorting.
order	String	Order of queried jobs. The default value is desc , indicating the descending order. You can also set this parameter to asc , indicating the ascending order.
group_by	String	Condition for grouping the jobs to be queried.
workspace_id	String	Workspace where a job is located. The default value is 0 .
ai_project	String	AI project to which a job belongs. The default value is default-ai-project .
items	Array of JobResponse objects	Jobs that meet the search criteria of the current user.

Table 5-338 JobResponse

Parameter	Type	Description
kind	String	Training job type, which is job by default. Options: <ul style="list-style-type: none"> job: training job
metadata	JobMetadata object	Metadata of a training job.
status	Status object	Status of a training job. You do not need to set this parameter when creating a job.

Parameter	Type	Description
algorithm	JobAlgorithmResponse object	Algorithm used by a training job. The options are as follows: <ul style="list-style-type: none"> ● id: Only the algorithm ID is used. ● subscription_id+item_version_id: The subscription ID and version ID of the algorithm are used. ● code_dir+boot_file: The code directory and boot file of the training job are used.
tasks	Array of TaskResponse objects	List of tasks in heterogeneous training jobs.
spec	spec object	Specifications of a training job.

Table 5-339 JobMetadata

Parameter	Type	Description
id	String	Training job ID, which is generated and returned by ModelArts after the training job is created.
name	String	Name of a training job. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).
workspace_id	String	Workspace where a job is located. The default value is 0 .
description	String	Training job description. The value must contain 0 to 256 characters. The default value is NULL .
create_time	Long	Time when a training job was created, in milliseconds. The value is generated and returned by ModelArts after a training job is created.
user_name	String	Username for creating a training job. The username is generated and returned by ModelArts after a training job is created.
annotations	Map<String,String>	Advanced configuration of a training job. Options: <ul style="list-style-type: none"> ● job_template: Template RL (heterogeneous job) ● fault-tolerance/job-retry-num: 3 (number of retries upon a fault)

Table 5-340 Status

Parameter	Type	Description
phase	String	Level-1 status of a training job. The options are as follows: Creating, Pending, Running, Failed, Completed, Terminating, Terminated, Abnormal.
secondary_phase	String	Level-2 status of a training job. The values are internal detailed statuses and may be added, changed, or deleted. Dependency on the status is not recommended. The options are as follows: Creating, Queuing, Running, Failed, Completed, Terminating, Terminated, CreateFailed, TerminatedFailed, Unknown, Lost.
duration	Long	Running duration of a training job, in milliseconds
node_count_metrics	Array<Array<Integer>>	Node count changes during the training job running period.
tasks	Array of strings	Tasks of a training job.
start_time	Long	Start time of a training job. The value is in timestamp format.
task_statuses	Array of task_statuses objects	Status of a training job task.
running_records	Array of running_records objects	Running and fault recovery records of a training job

Table 5-341 task_statuses

Parameter	Type	Description
task	String	Name of a training job task.
exit_code	Integer	Exit code of a training job task.
message	String	Error message of a training job task.

Table 5-342 running_records

Parameter	Type	Description
start_at	Integer	Unix timestamp of the start time in the current running record, in seconds
end_at	Integer	Unix timestamp of the end time in the current running record, in seconds
start_type	String	Startup mode of the current running record. The options are as follows: init_or_rescheduled : This startup is the first running after scheduling, including the first startup and the running after scheduling recovery. restarted : This startup is not the first running after scheduling but the running after a process restart.
end_reason	String	Reason why the current running record ends
end_related_task	String	ID of the task worker that causes the end of the current running record, for example, worker-0
end_recover	String	Fault tolerance policy used after the current running record ends. The enums are as follows: <ul style="list-style-type: none"> • npu_proc_restart: NPU in-place hot recovery • gpu_proc_restart: GPU in-place hot recovery • proc_restart: Process in-place recovery • pod_reschedule: Pod-level rescheduling • job_reschedule: Job-level rescheduling • job_reschedule_with_taint: Isolated job-level rescheduling
end_recover_before_downgrade	String	Tolerance policy used after the current running record ends and before the fault tolerance policy is degraded. The options are the same as those of end_recover .

Table 5-343 JobAlgorithmResponse

Parameter	Type	Description
id	String	Algorithm used by a training job. The options are as follows: <ul style="list-style-type: none"> • id: Only the algorithm ID is used. • subscription_id+item_version_id: The subscription ID and version ID of the algorithm are used. • code_dir+boot_file: The code directory and boot file of the training job are used.
name	String	Algorithm name.
subscription_id	String	Subscription ID of a subscribed algorithm, which must be used with item_version_id
item_version_id	String	Version ID of the subscribed algorithm, which must be used with subscription_id
code_dir	String	Code directory of a training job, for example, /usr/app/ . This parameter must be used together with boot_file . If id or subscription_id+item_version_id is set, leave it blank.
boot_file	String	Boot file of a training job, which must be stored in the code directory, for example, /usr/app/boot.py . This parameter must be used with code_dir . Leave this parameter blank if id , or subscription_id and item_version_id are specified.
autosearch_config_path	String	YAML configuration path of auto search jobs. An OBS URL is required.
autosearch_framework_path	String	Framework code directory of auto search jobs. An OBS URL is required.
command	String	Boot command for starting the container of a custom image for a training job. For example, python train.py .
parameters	Array of Parameter objects	Running parameters of a training job.
policies	policies object	Policies supported by jobs.
inputs	Array of Input objects	Input of a training job.

Parameter	Type	Description
outputs	Array of Output objects	Output of a training job.
engine	engine object	Engine of a training job. Leave this parameter blank if the job is created using id of the algorithm in algorithm management, or subscription_id+item_version_id of the subscribed algorithm.
local_code_dir	String	Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: <ul style="list-style-type: none"> • The directory must be under /home. • In v1 compatibility mode, the current field does not take effect. • When code_dir is prefixed with file://, the current field does not take effect.
working_dir	String	Work directory where an algorithm is executed. Note that this parameter does not take effect in v1 compatibility mode.
environments	Array of Map<String,String> objects	Environment variables of a training job. The format is key:value . Leave this parameter blank.

Table 5-344 Parameter

Parameter	Type	Description
name	String	Parameter name.
value	String	Parameter value.
description	String	Parameter description.
constraint	constraint object	Parameter constraint.
i18n_description	i18n_description object	Internationalization description.

Table 5-345 constraint

Parameter	Type	Description
type	String	Parameter type.

Parameter	Type	Description
editable	Boolean	Whether the parameter is editable.
required	Boolean	Whether the parameter is mandatory.
sensitive	Boolean	Whether the parameter is sensitive This function is not implemented currently.
valid_type	String	Valid type.
valid_range	Array of strings	Valid range.

Table 5-346 i18n_description

Parameter	Type	Description
language	String	Language. Options: <ul style="list-style-type: none"> • zh-cn: Chinese • en-us: English
description	String	Description.

Table 5-347 policies

Parameter	Type	Description
auto_search	auto_search object	Hyperparameter search configuration.

Table 5-348 auto_search

Parameter	Type	Description
skip_search_parameters	String	Hyperparameter parameters that need to be skipped.
reward_attrs	Array of reward_attrs objects	List of search metrics.
search_parameters	Array of search_parameters objects	Search parameters.
algo_configs	Array of algo_configs objects	Search algorithm configurations.

Table 5-349 reward_attrs

Parameter	Type	Description
name	String	Metric name.
mode	String	Search mode. <ul style="list-style-type: none"> • max: A larger metric value is preferred. • min: A smaller metric value is preferred.
regex	String	Regular expression of a metric.

Table 5-350 search_params

Parameter	Type	Description
name	String	Hyperparameter name.
param_type	String	Parameter type. <ul style="list-style-type: none"> • continuous: The hyperparameter is of the continuous type. When an algorithm is used in a training job, continuous hyperparameters are displayed as text boxes on the console. • discrete: The hyperparameter is of the discrete type. When an algorithm is used in a training job, discrete hyperparameters are displayed as drop-down lists on the console.
lower_bound	String	Lower bound of the hyperparameter.
upper_bound	String	Upper bound of the hyperparameter.
discrete_points_num	String	Number of discrete points of a continuous hyperparameter.
discrete_values	Array of strings	List of discrete hyperparameter values.

Table 5-351 algo_configs

Parameter	Type	Description
name	String	Name of the search algorithm.
params	Array of AutoSearchAlgorithmConfigParameter objects	Search algorithm parameters.

Table 5-352 AutoSearchAlgoConfigParameter

Parameter	Type	Description
key	String	Parameter key.
value	String	Parameter value.
type	String	Parameter type.

Table 5-353 Input

Parameter	Type	Description
name	String	Name of the data input channel.
description	String	Description of the data input channel.
local_dir	String	Local directory of the container to which the data input channel is mapped.
remote	InputDataInfo object	Information of the data input. Enums: <ul style="list-style-type: none"> • dataset: The data input is a dataset. • obs: The data input is an OBS path.
remote_constraint	Array of remote_constraint objects	Data input constraint

Table 5-354 InputDataInfo

Parameter	Type	Description
dataset	dataset object	Dataset as the data input.
obs	obs object	OBS in which data input and output stored.

Table 5-355 dataset

Parameter	Type	Description
id	String	Dataset ID of a training job.
version_id	String	Dataset version ID of a training job.
obs_url	String	OBS URL of the dataset for a training job. It is automatically parsed by ModelArts based on the dataset ID and dataset version ID. For example, /usr/data/ .

Table 5-356 obs

Parameter	Type	Description
obs_url	String	OBS URL of the dataset required by a training job. For example, /usr/data/ .

Table 5-357 remote_constraint

Parameter	Type	Description
data_type	String	Data input type, including the data storage location and dataset.
attributes	String	Attributes if a dataset is used as the data input. Options: <ul style="list-style-type: none"> • data_format: Data format • data_segmentation: Data segmentation • dataset_type: Labeling type

Table 5-358 Output

Parameter	Type	Description
name	String	Name of the data output channel.
description	String	Description of the data output channel.
local_dir	String	Local directory of the container to which the data output channel is mapped.
remote	remote object	Description of the actual data output.

Table 5-359 remote

Parameter	Type	Description
obs	obs object	OBS to which data is actually exported.

Table 5-360 obs

Parameter	Type	Description
obs_url	String	OBS URL to which data is actually exported.

Table 5-361 engine

Parameter	Type	Description
engine_id	String	Engine ID selected for a training job. The value can be engine_id , engine_name + engine_version , or image_url .
engine_name	String	Name of the engine selected for a training job. If engine_id is set, leave this parameter blank.
engine_version	String	Name of the engine version selected for a training job. If engine_id is set, leave this parameter blank.
image_url	String	Custom image URL selected for a training job.

Table 5-362 TaskResponse

Parameter	Type	Description
role	String	Task role. This function is not supported currently.
algorithm	algorithm object	Algorithm management and configuration.
task_resource	FlavorResponse object	Flavors of a training job or an algorithm.

Table 5-363 algorithm

Parameter	Type	Description
code_dir	String	Absolute path of the directory where the algorithm boot file is stored.
boot_file	String	Absolute path of the algorithm boot file.
inputs	inputs object	Algorithm input channel.
outputs	outputs object	Algorithm output channel.
engine	engine object	Engine on which a heterogeneous job depends.

Parameter	Type	Description
local_code_dir	String	Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: <ul style="list-style-type: none"> • The directory must be under /home. • In v1 compatibility mode, the current field does not take effect. • When code_dir is prefixed with file://, the current field does not take effect.
working_dir	String	Work directory where an algorithm is executed. Note that this parameter does not take effect in v1 compatibility mode.

Table 5-364 inputs

Parameter	Type	Description
name	String	Name of the data input channel.
local_dir	String	Local path of the container to which the data input and output channels are mapped.
remote	remote object	Actual data input. Heterogeneous jobs support only OBS.

Table 5-365 remote

Parameter	Type	Description
obs	obs object	OBS in which data input and output stored.

Table 5-366 obs

Parameter	Type	Description
obs_url	String	OBS URL of the dataset required by a training job. For example, /usr/data/ .

Table 5-367 outputs

Parameter	Type	Description
name	String	Name of the data output channel.

Parameter	Type	Description
local_dir	String	Local directory of the container to which the data output channel is mapped.
remote	remote object	Description of the actual data output.
mode	String	Data transmission mode. The default value is upload_periodically .
period	String	Data transmission period. The default value is 30s .

Table 5-368 remote

Parameter	Type	Description
obs	obs object	OBS to which data is actually exported.

Table 5-369 obs

Parameter	Type	Description
obs_url	String	OBS URL to which data is exported.

Table 5-370 engine

Parameter	Type	Description
engine_id	String	Engine ID of a heterogeneous job, for example, caffe-1.0.0-python2.7 .
engine_name	String	Engine name of a heterogeneous job, for example, Caffe .
engine_version	String	Engine version of a heterogeneous job.
v1_compatible	Boolean	Whether the v1 compatibility mode is used.
run_user	String	User UID started by default by the engine.
image_url	String	Custom image URL selected by an algorithm.

Table 5-371 FlavorResponse

Parameter	Type	Description
flavor_id	String	ID of the resource flavor.
flavor_name	String	Name of the resource flavor.
max_num	Integer	Maximum number of nodes in a resource flavor.
flavor_type	String	Resource flavor type. Options: <ul style="list-style-type: none"> • CPU • GPU • Ascend
billing	billing object	Billing information of a resource flavor.
flavor_info	flavor_info object	Resource flavor details.
attributes	Map<String,String>	Other specification attributes.

Table 5-372 billing

Parameter	Type	Description
code	String	Billing code.
unit_num	Integer	Number of billing units.

Table 5-373 flavor_info

Parameter	Type	Description
max_num	Integer	Maximum number of nodes that can be selected. The value 1 indicates that the distributed mode is not supported.
cpu	cpu object	CPU specifications.
gpu	gpu object	GPU specifications.
npu	npu object	Ascend specifications
memory	memory object	Memory information.
disk	disk object	Disk information.

Table 5-374 cpu

Parameter	Type	Description
arch	String	CPU architecture.
core_num	Integer	Number of cores.

Table 5-375 gpu

Parameter	Type	Description
unit_num	Integer	Number of GPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-376 npu

Parameter	Type	Description
unit_num	String	Number of NPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-377 memory

Parameter	Type	Description
size	Integer	Memory size.
unit	String	Memory size

Table 5-378 disk

Parameter	Type	Description
size	Integer	Disk size.
unit	String	Unit of the disk size.

Table 5-379 spec

Parameter	Type	Description
resource	Resource object	Resource flavors of a training job. Select either flavor_id or pool_id+[flavor_id] .
volumes	Array of volumes objects	Volumes attached to a training job.
log_export_path	log_export_path object	Export path of training job logs.

Table 5-380 Resource

Parameter	Type	Description
policy	String	Resource flavor mode of a training job. The value is regular .
flavor_id	String	ID of the resource flavor selected for a training job. flavor_id cannot be specified for dedicated resource pools with CPU specifications. The options for dedicated resource pools with GPU/Ascend specifications are as follows: <ul style="list-style-type: none"> • modelarts.pool.visual.xlarge (1 card) • modelarts.pool.visual.2xlarge (2 cards) • modelarts.pool.visual.4xlarge (4 cards) • modelarts.pool.visual.8xlarge (8 cards)
flavor_name	String	Read-only flavor name returned by ModelArts when flavor_id is used.
node_count	Integer	Number of resource replicas selected for a training job.
pool_id	String	Resource pool ID selected for a training job.
flavor_detail	flavor_detail object	Flavor details of a training job or algorithm. This parameter is available only for public resource pools.

Table 5-381 flavor_detail

Parameter	Type	Description
flavor_type	String	Resource flavor type. Options: <ul style="list-style-type: none"> • CPU • GPU • Ascend
billing	billing object	Billing information of a resource flavor.
flavor_info	flavor_info object	Resource flavor details.

Table 5-382 billing

Parameter	Type	Description
code	String	Billing code.
unit_num	Integer	Number of billing units.

Table 5-383 flavor_info

Parameter	Type	Description
max_num	Integer	Maximum number of nodes that can be selected. The value 1 indicates that the distributed mode is not supported.
cpu	cpu object	CPU specifications.
gpu	gpu object	GPU specifications.
npu	npu object	Ascend specifications
memory	memory object	Memory information.
disk	disk object	Disk information.

Table 5-384 cpu

Parameter	Type	Description
arch	String	CPU architecture.
core_num	Integer	Number of cores.

Table 5-385 gpu

Parameter	Type	Description
unit_num	Integer	Number of GPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-386 npu

Parameter	Type	Description
unit_num	String	Number of NPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-387 memory

Parameter	Type	Description
size	Integer	Memory size.
unit	String	Number of memory units.

Table 5-388 disk

Parameter	Type	Description
size	String	Disk size.
unit	String	Unit of the disk size. Generally, the value is GB.

Table 5-389 volumes

Parameter	Type	Description
nfs	nfs object	Volumes attached in NFS mode.

Table 5-390 nfs

Parameter	Type	Description
nfs_server_path	String	NFS server path.
local_path	String	Path for attaching volumes to the training container.
read_only	Boolean	Whether the volumes attached to the container in NFS mode are read-only.

Table 5-391 log_export_path

Parameter	Type	Description
obs_url	String	OBS URL for storing training job logs.
host_path	String	Path of the host where training job logs are stored.

Example Requests

The following is an example of how to obtain training jobs. The number of obtained training jobs has been limited to **1**, and the system will only query data for training jobs with names containing **trainjob**.

POST https://endpoint/v2/{project_id}/training-job-searches?limit=1

```
{
  "offset" : 0,
  "limit" : 1,
  "filters" : [ {
    "key" : "name",
    "operator" : "like",
    "value" : [ "trainjob" ]
  }, {
    "key" : "create_time",
    "operator" : "between",
    "value" : [ "", "" ]
  }, {
    "key" : "phase",
    "operator" : "in",
    "value" : [ "" ]
  }, {
    "key" : "algorithm_name",
    "operator" : "like",
    "value" : [ "" ]
  }, {
    "key" : "kind",
    "operator" : "in",
    "value" : [ ]
  }, {
    "key" : "user_id",
    "operator" : "in",
    "value" : [ "" ]
  } ]
}
```

Example Responses

Status code: 200

ok

```
{
  "total": 5059,
  "count": 1,
  "limit": 1,
  "offset": 0,
  "sort_by": "create_time",
  "order": "desc",
  "group_by": "",
  "workspace_id": "0",
  "ai_project": "default-ai-project",
  "items": [ {
    "kind": "job",
    "metadata": {
      "id": "3faf5c03-aaa1-4cbe-879d-24b05d997347",
      "name": "trainjob--py14_mem06-byd-108",
      "description": "",
      "create_time": 1636447346315,
      "workspace_id": "0",
      "user_name": "ei_modelarts_q00357245_01"
    },
    "status": {
      "phase": "Abnormal",
      "secondary_phase": "CreateFailed",
      "duration": 0,
      "start_time": 0,
      "node_count_metrics": [ [ 1636447746000, 0 ], [ 1636447755000, 0 ], [ 1636447756000, 0 ] ],
      "tasks": [ "worker-0" ]
    },
    "algorithm": {
      "code_dir": "obs://test-crq/economic_test/py_minist/",
      "boot_file": "obs://test-crq/economic_test/py_minist/minist_common.py",
      "inputs": [ {
        "name": "data_url",
        "local_dir": "/home/ma-user/modelarts/inputs/data_url_0",
        "remote": {
          "obs": {
            "obs_url": "/test-crq/data/py_minist/"
          }
        }
      } ],
      "outputs": [ {
        "name": "train_url",
        "local_dir": "/home/ma-user/modelarts/outputs/train_url_0",
        "remote": {
          "obs": {
            "obs_url": "/test-crq/train_output/"
          }
        }
      } ],
      "engine": {
        "engine_id": "pytorch-cp36-1.4.0-v2",
        "engine_name": "PyTorch",
        "engine_version": "PyTorch-1.4.0-python3.6-v2"
      }
    },
    "spec": {
      "resource": {
        "policy": "economic",
        "flavor_id": "modelarts.vm.pnt1.large.eco",
        "flavor_name": "Computing GPU(Pnt1) instance",
        "node_count": 1,
        "flavor_detail": {
          "flavor_type": "GPU",

```

```
"billing" : {  
  "code" : "modelarts.vm.gpu.pnt1.eco",  
  "unit_num" : 1  
},  
"flavor_info" : {  
  "cpu" : {  
    "arch" : "x86",  
    "core_num" : 8  
  },  
  "gpu" : {  
    "unit_num" : 1,  
    "product_name" : "GP-Pnt1",  
    "memory" : "8GB"  
  },  
  "memory" : {  
    "size" : 64,  
    "unit" : "GB"  
  }  
}  
}  
}  
}  
}]  
}
```

Status Codes

Status Code	Description
200	ok

Error Codes

See [Error Codes](#).

5.15 Obtaining the General Specifications Supported by a Training Job

Function

This API is used to obtain the public flavors supported by a training job.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/training-job-flavors

Table 5-392 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 5-393 Query Parameters

Parameter	Mandatory	Type	Description
flavor_type	No	String	This API is used to obtain training job flavors. If this parameter is not specified, all flavors will be obtained. Options: <ul style="list-style-type: none"> • CPU • GPU • Ascend

Request Parameters

None

Response Parameters

Status code: 200

Table 5-394 Response body parameters

Parameter	Type	Description
total_count	Integer	Total number of resource flavors of a training job.
flavors	Array of FlavorResponse objects	List of resource flavors of a training job.

Table 5-395 FlavorResponse

Parameter	Type	Description
flavor_id	String	ID of the resource flavor.
flavor_name	String	Name of the resource flavor.

Parameter	Type	Description
max_num	Integer	Maximum number of nodes in a resource flavor.
flavor_type	String	Resource flavor type. Options: <ul style="list-style-type: none"> • CPU • GPU • Ascend
billing	billing object	Billing information of a resource flavor.
flavor_info	flavor_info object	Resource flavor details.
attributes	Map<String,String>	Other specification attributes.

Table 5-396 billing

Parameter	Type	Description
code	String	Billing code.
unit_num	Integer	Number of billing units.

Table 5-397 flavor_info

Parameter	Type	Description
max_num	Integer	Maximum number of nodes that can be selected. The value 1 indicates that the distributed mode is not supported.
cpu	cpu object	CPU specifications.
gpu	gpu object	GPU specifications.
npu	npu object	Ascend specifications
memory	memory object	Memory information.
disk	disk object	Disk information.

Table 5-398 cpu

Parameter	Type	Description
arch	String	CPU architecture.

Parameter	Type	Description
core_num	Integer	Number of cores.

Table 5-399 gpu

Parameter	Type	Description
unit_num	Integer	Number of GPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-400 npu

Parameter	Type	Description
unit_num	String	Number of NPUs.
product_name	String	Product name.
memory	String	Memory.

Table 5-401 memory

Parameter	Type	Description
size	Integer	Memory size.
unit	String	Memory size

Table 5-402 disk

Parameter	Type	Description
size	Integer	Disk size.
unit	String	Unit of the disk size.

Example Requests

The following shows how to query the public CPU resource flavors of training jobs in CN North-Beijing4.

```
GET https://endpoint/v2/{project_id}/training-job-flavors?flavor_type=CPU
```

Example Responses

Status code: 200

ok

```
{
  "total_count": 2,
  "flavors": [ {
    "flavor_id": "modelarts.vm.cpu.2u",
    "flavor_name": "Computing CPU(2U) instance",
    "flavor_type": "CPU",
    "billing": {
      "code": "modelarts.vm.cpu.2u",
      "unit_num": 1
    },
    "flavor_info": {
      "max_num": 1,
      "cpu": {
        "arch": "x86",
        "core_num": 2
      },
      "memory": {
        "size": 8,
        "unit": "GB"
      },
      "disk": {
        "size": 50,
        "unit": "GB"
      }
    }
  }, {
    "flavor_id": "modelarts.vm.cpu.8u",
    "flavor_name": "Computing CPU(8U) instance",
    "flavor_type": "CPU",
    "billing": {
      "code": "modelarts.vm.cpu.8u",
      "unit_num": 1
    },
    "flavor_info": {
      "max_num": 16,
      "cpu": {
        "arch": "x86",
        "core_num": 8
      },
      "memory": {
        "size": 32,
        "unit": "GB"
      },
      "disk": {
        "size": 50,
        "unit": "GB"
      }
    }
  }
]
```

Status Codes

Status Code	Description
200	ok

Error Codes

See [Error Codes](#).

5.16 Obtaining the Preset AI Frameworks Supported by a Training Job

Function

This API is used to obtain the preset AI frameworks supported by a training job.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/training-job-engines

Table 5-403 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

Status code: 200

Table 5-404 Response body parameters

Parameter	Type	Description
total	Integer	Total number of training job engines.
items	Array of items objects	List of engine specifications.

Table 5-405 items

Parameter	Type	Description
engine_id	String	Engine ID, for example, caffe-1.0.0-python2.7 .
engine_name	String	Engine name, for example, Caffe .
engine_version	String	Engine version. Engines with the same name have multiple versions, for example, Caffe-1.0.0-python2.7 of Python 2.7.
v1_compatible	Boolean	Whether the v1 compatibility mode is used.
run_user	String	User UID started by default by the engine.
image_info	image_info object	Engine information.

Table 5-406 image_info

Parameter	Type	Description
cpu_image_url	String	Image with the matched CPU specifications.
gpu_image_url	String	Image with the matched GPU or Ascend flavors
image_version	String	Image version.

Example Requests

The following shows how to query all public engine specifications of a training job in CN North-Beijing4 (only part of the specifications are displayed because there are too many engines).

```
GET https://endpoint/v2/{project_id}/training-job-engines
```

Example Responses

Status code: 200

ok

```
{
  "total": 20,
  "items": [ {
    "engine_id": "caffe-1.0.0-python2.7",
    "engine_name": "Caffe",
    "engine_version": "caffe-1.0.0-python2.7",
    "v1_compatible": true,
    "run_user": "",
    "image_info": {
      "cpu_image_url": "modelarts-job-dev-image/caffe1-cpu-cp27:1.0.0",
```

```

"gpu_image_url" : "modelarts-job-dev-image/caffe1-gpu-cuda8-cp27:1.0.0",
"image_version" : "3.1.0"
}
}, {
  "engine_id" : "horovod-cp36-tf-1.16.2",
  "engine_name" : "Horovod",
  "engine_version" : "0.16.2-TF-1.13.1-python3.6",
  "v1_compatible" : true,
  "run_user" : "",
  "image_info" : {
    "cpu_image_url" : "modelarts-job-dev-image/tensorflow-gpu-cuda10-cp36-horovod0162:1.13.1",
    "gpu_image_url" : "modelarts-job-dev-image/tensorflow-gpu-cuda10-cp36-horovod0162:1.13.1",
    "image_version" : "3.2.1"
  }
}, {
  "engine_id" : "horovod_0.20.0-tensorflow_2.1.0-cuda_10.1-py_3.7-ubuntu_18.04-x86_64",
  "engine_name" : "Horovod",
  "engine_version" : "horovod_0.20.0-tensorflow_2.1.0-cuda_10.1-py_3.7-ubuntu_18.04-x86_64",
  "v1_compatible" : false,
  "run_user" : "1102",
  "image_info" : {
    "cpu_image_url" : "aip/horovod_tensorflow:train",
    "gpu_image_url" : "aip/horovod_tensorflow:train",
    "image_version" : "horovod_0.20.0-tensorflow_2.1.0-cuda_10.1-py_3.7-ubuntu_18.04-x86_64-20210912152543-1e0838d"
  }
}, {
  "engine_id" : "tensorflow_2.1.0-cuda_10.1-py_3.7-ubuntu_18.04-x86_64",
  "engine_name" : "TensorFlow",
  "engine_version" : "tensorflow_2.1.0-cuda_10.1-py_3.7-ubuntu_18.04-x86_64",
  "v1_compatible" : false,
  "run_user" : "1102",
  "image_info" : {
    "cpu_image_url" : "aip/tensorflow_2_1:train",
    "gpu_image_url" : "aip/tensorflow_2_1:train",
    "image_version" : "tensorflow_2.1.0-cuda_10.1-py_3.7-ubuntu_18.04-x86_64-20210912152543-1e0838d"
  }
}, {
  "engine_id" : "xgboost-sklearn-python3.6",
  "engine_name" : "XGBoost-Sklearn",
  "engine_version" : "XGBoost-0.80-Sklearn-0.18.1-python3.6",
  "v1_compatible" : true,
  "run_user" : "",
  "image_info" : {
    "cpu_image_url" : "modelarts-job-dev-image/python-train-py36:secure",
    "gpu_image_url" : "",
    "image_version" : "2.0.10-20211101113705"
  }
}
}]
}

```

Status Codes

Status Code	Description
200	ok

Error Codes

See [Error Codes](#).

6 AI Application Management

6.1 Obtaining the Model Runtime

Function

This API is used to obtain the AI engine and runtime of models.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/models/ai-engine-runtimes

Table 6-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID .

Table 6-2 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	String	Number of items displayed on each page
offset	No	String	Offset, which is the position where the query starts. The value must be greater than or equal to 0.

Request Parameters

Table 6-3 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 6-4 Response body parameters

Parameter	Type	Description
count	Integer	Total number of records that meet the search criteria when no pagination is performed
total_count	Integer	Number of records in the query result. If offset and limit are not configured, the values of count and total are the same.
engine_runtimes	Array of EngineAndRuntimesResponse objects	Engine runtime environment

Table 6-5 EngineAndRuntimesResponse

Parameter	Type	Description
ai_engine	String	AI engine type. The options are as follows: <ul style="list-style-type: none"> • TensorFlow • PyTorch • MindSpore • XGBoost • Scikit_Learn • Spark_MLlib
runtimes	Array of strings	Runtime image, for example, pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64
request_mode	Array of strings	Request mode. The AI engine supports synchronous or asynchronous real-time services. <ul style="list-style-type: none"> • sync: synchronous real-time service • async: asynchronous real-time service

Parameter	Type	Description
accelerators	Array of Accelerator objects	Accelerator cards that can be used by the AI engine.
arch	Array of strings	AI engine architecture. The options are as follows: <ul style="list-style-type: none"> • x86_64 • aarch64
status_list	Array of strings	AI engine status. The options are as follows: <ul style="list-style-type: none"> • normal: The AI engine is normal. • deleted: The AI engine is deleted. • deleting: The AI engine is being deleted.
image_source	Array of strings	Image source. The options are as follows: <ul style="list-style-type: none"> • base_image • uniform_image

Table 6-6 Accelerator

Parameter	Type	Description
type	String	Accelerator card type. The options are as follows: <ul style="list-style-type: none"> • npu • gpu • none
name	String	Accelerator card name, for example, SNT9B .
cuda_version	String	CUDA driver version.
driver_version_section	String	Driver version set.

Status code: 401

Table 6-7 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 6-8 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 6-9 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

GET https://{endpoint}/v1/{project_id}/models/ai-engine-runtimes

Example Responses

Status code: 200

OK

```
{
  "count": 4,
  "total_count": 4,
  "engine_runtimes": [ {
    "ai_engine": "TensorFlow",
    "runtimes": [ "tf1.13-python3.6-cpu", "tf1.13-python3.6-gpu", "tf1.13-python3.7-cpu", "tf1.13-python3.7-gpu", "python3.6", "tf1.13-python3.7-aiflow-gpu", "tf1.13-python3.7-gpu-async", "tensorflow_2.1.0-cuda_10.1-py_3.7-ubuntu_18.04-x86_64", "tensorflow_2.6.0-cuda_11.2-py_3.7-ubuntu_18.04-x86_64", "tensorflow_1.15.5-cuda_11.4-py_3.8-ubuntu_20.04-x86_64" ],
    "request_mode": [ "sync", "sync", "sync", "sync", "sync", "sync", "async", "sync", "sync", "sync" ],
    "accelerators": [ {
      "type": "none"
    }, {
      "type": "gpu",
      "cuda_version": "cuda 10.2"
    }, {
      "type": "none"
    }, {
      "type": "gpu",
      "cuda_version": "cuda 10.2"
    }, {
      "type": "none"
    }, {
      "type": "gpu",
      "cuda_version": "cuda 10.2"
    }, {
      "type": "gpu",
      "cuda_version": "cuda 10.2"
    }
  ]
}
```

```

    }, {
      "type": "none"
    }, {
      "type": "none"
    }, {
      "type": "none"
    } ],
    "arch": [ "x86_64", "x86_64", "x86_64", "x86_64", "x86_64", "x86_64", "x86_64", "x86_64", "x86_64",
"x86_64" ],
    "status_list": [ "normal", "normal", "normal", "normal", "normal", "normal", "normal", "normal",
"normal", "normal", "normal" ],
    "image_source": [ "base_image", "base_image", "base_image", "base_image", "base_image",
"base_image", "base_image", "uniform_image", "uniform_image", "uniform_image" ]
  }, {
    "ai_engine": "PyTorch",
    "runtimes": [ "python3.6", "python3.7", "pytorch1.4-python3.7", "pytorch_1.11.0-cann_7.0.1-py_3.9-
euler_2.10.7-aarch64-snt9b", "pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64", "pytorch_1.8.2-
cuda_11.1-py_3.7-ubuntu_18.04-x86_64" ],
    "request_mode": [ "sync", "sync", "sync", "sync", "sync", "sync" ],
    "accelerators": [ {
      "type": "none"
    }, {
      "type": "none"
    }, {
      "type": "none"
    }, {
      "type": "npu",
      "name": "SNT9",
      "driver_version_section": "C8x"
    }, {
      "type": "none"
    }, {
      "type": "none"
    } ],
    "arch": [ "x86_64", "x86_64", "x86_64", "aarch64", "x86_64", "x86_64" ],
    "status_list": [ "normal", "normal", "normal", "normal", "normal", "normal" ],
    "image_source": [ "base_image", "base_image", "base_image", "uniform_image", "uniform_image",
"uniform_image" ]
  }, {
    "ai_engine": "MindSpore",
    "runtimes": [ "mindspore_1.9.0-cann_6.0.1-py_3.7-euler_2.9.9-x86_64-snt3p-300i", "mindspore_1.7.0-
cuda_10.1-py_3.7-ubuntu_18.04-x86_64", "mindspore_1.2.0-py_3.7-cuda_10.1-ubuntu_18.04-x86_64" ],
    "request_mode": [ "sync", "sync", "sync" ],
    "accelerators": [ {
      "type": "none"
    }, {
      "type": "none"
    }, {
      "type": "none"
    } ],
    "arch": [ "x86_64", "x86_64", "x86_64" ],
    "status_list": [ "normal", "normal", "normal" ],
    "image_source": [ "uniform_image", "uniform_image", "uniform_image" ]
  }, {
    "ai_engine": "Custom",
    "runtimes": [ ],
    "request_mode": [ ],
    "accelerators": [ ],
    "arch": [ ],
    "status_list": [ ],
    "image_source": [ ]
  } ]
}

```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

6.2 Querying the AI Application List

Function

This API is used to query the AI application list based on different search parameters.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/models

Table 6-10 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 6-11 Query Parameters

Parameter	Mandatory	Type	Description
model_name	No	String	Model name. Fuzzy match is supported. If a model name contains an underscore (_), add the exact_match parameter to the request and set the parameter value to true because the underscore needs to be escaped. This ensures that the query operation can be performed properly.
exact_match	No	String	Whether to escape underscores (.). <i>If a model name contains underscores (),</i> set this parameter to true to ensure that the query operation can be performed properly. By default, this parameter is left blank.
model_version	No	String	Model version The format is Digit:Digit:Digit, where Digit is a one-digit or two-digit positive integer. Note that the version number cannot start with 0, for example, 01.01.01.
model_status	No	String	Model status. You can obtain models based on model statuses. Options: <ul style="list-style-type: none"> • publishing: The model is being published. • published: The model has been published. • failed: Publishing the model failed. • building: The image is being created. • building_failed: Creating an image failed.
description	No	String	Description. Fuzzy match is supported.
offset	No	Integer	Index of the query page, which defaults to 0

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records returned on each page. Default value: 1000
sort_by	No	String	Sorting field. Enums: <ul style="list-style-type: none"> • create_at: time when an AI application is created (default value) • model_version: AI application version • model_size: AI application size
order	No	String	Sorting order. Enums: <ul style="list-style-type: none"> • asc: ascending order • desc: descending order (default value)
workspace_id	No	String	Workspace ID, which defaults to 0
model_type	No	String	Model type. The models of this type are queried. <code>model_type</code> and <code>not_model_type</code> are mutually exclusive and cannot co-exist. The value can be TensorFlow, PyTorch, MindSpore, Image, Custom or Template.
not_model_type	No	String	Model type, which is used for obtaining models of types except for this type. The value can be TensorFlow, PyTorch, MindSpore, Image, Custom or Template.

Request Parameters

Table 6-12 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API that is used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 6-13 Response body parameters

Parameter	Type	Description
models	Array of ModelListItem objects	Model metadata
total_count	Integer	Total number of models that meet the search criteria when no paging is performed
count	Integer	Total number of models that meet the search criteria

Table 6-14 ModelListItem

Parameter	Type	Description
owner	String	User ID of the tenant to which a model belongs
model_version	String	Model version
model_type	String	Model type
description	String	Model description
project	String	Project ID of the tenant to which a model belongs
source_type	String	Model source type. This parameter is valid and its value is auto only if the model is deployed using ExeML.

Parameter	Type	Description
model_id	String	Model ID
model_source	String	Model source. Options: <ul style="list-style-type: none"> • auto: ExeML • algos: built-in algorithm • custom: custom model
install_type	Array of strings	Deployment types supported by a model
model_size	Integer	Model size, in bytes
workspace_id	String	Workspace ID. Value 0 indicates the default workspace.
model_status	String	Model status
market_flag	Boolean	Whether a model is subscribed from AI Gallery
tunable	Boolean	Whether a model can be tuned. true indicates that the model can be tuned, and false indicates not.
model_name	String	Model name
create_at	Long	Time when a model is created, in milliseconds calculated from 1970.1.1 0:0:0 UTC.
publishable_flag	Boolean	Whether a model can be published to AI Gallery
source_copy	String	Whether to enable image replication. This parameter is valid only when model_type is set to Image . <ul style="list-style-type: none"> • true: Image replication is enabled. After this function is enabled, AI applications cannot be rapidly created, and modifying or deleting an image in the SWR source directory will not affect service deployment. • false: Image replication is not enabled. After this function is disabled, AI applications can be rapidly created, but modifying or deleting an image in the SWR source directory will affect service deployment. If this parameter is not configured, image replication is enabled by default.
tenant	String	Account ID of the tenant to which a model belongs
subscription_id	String	Model subscription ID

Parameter	Type	Description
extra	String	Extended parameter
specification	ModelSpecification object	Minimum specifications for model deployment

Table 6-15 ModelSpecification

Parameter	Type	Description
min_cpu	String	Minimal CPU specifications
min_gpu	String	Minimal GPU specifications
min_memory	String	Minimum memory
min_ascend	String	Minimal Ascend specifications

Example Requests

GET https://{endpoint}/v1/{project_id}/models

Example Responses

Status code: 200

Models

```
{
  "total_count": 1,
  "count": 1,
  "models": [ {
    "model_name": "mnist",
    "model_version": "1.0.0",
    "model_id": "10eb0091-887f-4839-9929-cbc884f1e20e",
    "model_type": "tensorflow",
    "model_size": 5012312,
    "tenant": "6d28e85aa78b4e1a9b4bd83501bcd4a1",
    "project": "d04c10db1f264cfef1966deff1a3527c",
    "owner": "6d28e85aa78b4e1a9b4bd83501bcd4a1",
    "create_at": 1533041553000,
    "description": "mnist model",
    "workspace_id": "0",
    "specification": { }
  } ]
}
```

Status Codes

Status Code	Description
200	Models

Error Codes

See [Error Codes](#).

6.3 Creating an AI Application

Function

Import a meta model to create an AI application. The execution code and model must be uploaded to OBS first. By default, the model generated by a training job is stored in OBS.

Constraints

The body parameter requirements for importing a model using a template are different from those for importing a model without using a template. In the following body parameters, **template parameters** indicate the parameters that can be configured when a model is imported using a template, **non-template parameters** indicate the parameters that can be configured when a model is imported without using a template, and **public parameters** indicate the parameters that are irrelevant to the model import mode.

- When a model is imported using a template (**model_type** is set to **Template**), the **template** field is mandatory and the **source_location** field does not need to be configured.
- If a model is imported without using a template (**model_type** is not set to **Template**), **source_location** is mandatory and **template** does not need to be configured.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v1/{project_id}/models

Table 6-16 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 6-17 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API that is used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Table 6-18 Request body parameters

Parameter	Mandatory	Type	Description
model_docs	No	Array of GuideDoc objects	List of model description documents. A maximum of three documents are supported. Common parameter
template	No	template object	Configuration items in a template. This parameter is mandatory when model_type is set to Template . Template parameter
model_version	Yes	String	Model version in the format of <i>Digit.Digit.Digit</i> . Each digit is a one-digit or two-digit positive integer, but cannot start with 0. For example, 01.01.01 is not allowed. Common parameter
source_job_version	No	String	Version of the source training job. If the model is generated from a training job, input this parameter for source tracing. If the model is imported from a third-party meta model, leave this parameter blank. This parameter is left blank by default. Non-template parameter
source_location	Yes	String	OBS path where the model is located or the SWR image location

Parameter	Mandatory	Type	Description
source_copy	No	String	<p>Whether to enable image replication. This parameter is valid only when model_type is set to Image.</p> <p>Options:</p> <ul style="list-style-type: none"> • true: Default value, indicating that image replication is enabled. After this function is enabled, AI applications cannot be rapidly created, and modifying or deleting an image in the SWR source directory will not affect service deployment. • false: Image replication is not enabled. After this function is disabled, AI applications can be rapidly created, but modifying or deleting an image in the SWR source directory will affect service deployment.
initial_config	No	String	<p>Character string converted from the model configuration file. Obtain fields such as apis, dependencies, input_params, and output_params in the initial_config configuration file. Non-template parameter</p>
execution_code	No	String	<p>OBS path for storing the execution code. By default, this parameter is left blank. The name of the execution code file is consistently to be customize_service.py. The inference code file must be stored in the model directory. This parameter can be left blank. Then, the system will automatically identify the inference code in the model directory. Common parameter</p>

Parameter	Mandatory	Type	Description
source_job_id	No	String	ID of the source training job. If the model is generated from a training job, input this parameter for source tracing. If the model is imported from a third-party meta model, leave this parameter blank. This parameter is left blank by default. Non-template parameter
model_type	Yes	String	Model type. The value is TensorFlow/Image/PyTorch/Template/MindSpore, which is read from the configuration file. ** Common Parameters**
output_parameters	No	Array of CreateModelRequestInferParams objects	Collection of output parameters of a model. By default, this parameter is left blank. If the parameters are read from apis in the configuration file, provide only the initial_config field, and this field can be left blank. Non-template parameter
description	No	String	Model description that consists of 1 to 100 characters. The following special characters cannot be contained: &!"<>= Common parameter
runtime	No	String	Model runtime environment. Its possible values are determined based on model_type . For details, see Supported AI engines and their runtime
model_metrics	No	String	Model precision. If the value is read from the configuration file, this parameter can be left blank. Non-template parameter

Parameter	Mandatory	Type	Description
source_type	No	String	Model source type. Currently, the value can only be auto, which is used to distinguish models deployed through ExeML (the model download function is not provided). This parameter is not required for models deployed through training jobs or other methods. It is left blank by default. ** Non-template parameter**
dependencies	No	Array of ModelDependencies objects	Package required for inference code and model. By default, this parameter is left blank. If the package is read from the configuration file, this parameter can be left blank. Non-template parameter
workspace_id	No	String	Workspace ID, which defaults to 0 . Common parameter
model_algorithm	No	String	Model algorithm. If the algorithm is read from the configuration file, this parameter can be left blank. The value can be predict_analysis , object_detection , or image_classification . Non-template parameter
apis	No	Array of CreateModelRequestModelApis objects	All API input and output parameters of the model. If the parameters are parsed from the configuration file, this parameter can be left blank. Non-template parameter
model_name	Yes	String	Model name, which consists of 1 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. Common parameter

Parameter	Mandatory	Type	Description
install_type	No	Array of strings	Deployment type. Only lowercase letters are supported. The value can be real-time , edge , or batch . The default value is [real-time , edge , batch].
input_params	No	Array of CreateModelRequestInferParams objects	Collection of input parameters of a model. By default, this parameter is left blank. If the parameters are read from apis in the configuration file, provide only the initial_config field, and this field can be left blank. Non-template parameter

Table 6-19 GuideDoc

Parameter	Mandatory	Type	Description
doc_url	Yes	String	HTTP(S) link of the document
doc_name	Yes	String	Document name, which must start with a letter. Enter 1 to 48 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.

Table 6-20 template

Parameter	Mandatory	Type	Description
infer_format	No	String	Input and output mode ID. When this parameter is used, the input and output mode built in the template does not take effect.
template_inputs	Yes	Array of CreateModelRequestTemplateInput objects	Template input configuration, specifying the source path for configuring a model.
template_id	Yes	String	ID of the used template. The template has a built-in input and output mode.

Table 6-21 CreateModelRequestTemplateInput

Parameter	Mandatory	Type	Description
input	Yes	String	Template input path, which can be a path to an OBS file or directory. When you use a template with multiple input items to create a model, if the target paths input_properties specified in the template are the same, the OBS directory or OBS file name entered here must be unique to prevent files from being overwritten.
input_id	Yes	String	Input item ID, which is obtained from template details.

Table 6-22 ModelDependencies

Parameter	Mandatory	Type	Description
installer	Yes	String	Installation mode. Only pip is supported.
packages	Yes	Array of Packages objects	Collection of dependency packages

Table 6-23 Packages

Parameter	Mandatory	Type	Description
package_version	No	String	Version of a dependency package. If this parameter is left blank, the latest version is installed by default. Chinese characters and special characters (&!"<>=) are not allowed.
package_name	Yes	String	Name of a dependency package. Ensure that the package name is correct and available. Chinese characters and special characters (&!"<>=) are not allowed.

Parameter	Mandatory	Type	Description
restraint	No	String	Version restriction, which can be EXACT , ATLEAST , or ATMOST . This parameter is mandatory only when package_version is available.

Table 6-24 CreateModelRequestModelApis

Parameter	Mandatory	Type	Description
protocol	No	String	Request protocol. The options are HTTP and HTTPS.
method	No	String	Request method, which can be post or get .
input_params	No	ModelInOutPutParams object	API input and output parameters, described in JSON Schema format.
output_params	No	ModelInOutPutParams object	API input and output parameters, described in JSON Schema format.
url	No	String	Inference request URL

Table 6-25 ModelInOutPutParams

Parameter	Mandatory	Type	Description
type	No	String	Type in JSON Schema, which can be object .
properties	No	Object	Properties of an object element in JSON Schema. You can configure parameters, including the parameter name and type.

Table 6-26 CreateModelRequestInferParams

Parameter	Mandatory	Type	Description
protocol	Yes	String	Request protocol. The options are HTTP and HTTPS.

Parameter	Mandatory	Type	Description
min	No	Number	Minimum value of the parameter. This parameter is optional when param_type is set to int or float. By default, this parameter is left blank.
method	Yes	String	Request method, which can be post or get .
max	No	Number	Maximum value of the parameter. This parameter is optional when param_type is set to int or float. By default, this parameter is left blank.
param_desc	No	String	Parameter description. It is recommended that the parameter description contain a maximum of 100 characters. By default, this parameter is left blank.
param_name	Yes	String	Parameter name. It is recommended that the parameter name contain a maximum of 64 characters.
url	Yes	String	API URL
param_type	Yes	String	Parameter type, which can be int , string , float , timestamp , date , or file

Response Parameters

Status code: 200

Table 6-27 Response body parameters

Parameter	Type	Description
model_id	String	Model ID.

Example Requests

Create an AI application. Set the AI application name to **mnist**, version to **1.0.0**, type to **TensorFlow**, and model file source to an OBS bucket.

```
POST https://{endpoint}/v1/{project_id}/models
```

```

{
  "model_name": "mnist",
  "model_version": "1.0.0",
  "source_location": "https://models.obs.xxxx.com/mnist",
  "source_job_id": "55",
  "source_job_version": "V100",
  "model_type": "TensorFlow",
  "runtime": "python2.7",
  "description": "mnist model",
  "execution_code": "https://testmodel.obs.xxxx.com/customize_service.py",
  "input_params": [ {
    "url": "/v1/xxx/image",
    "protocol": "http",
    "method": "post",
    "param_name": "image_url",
    "param_type": "string",
    "min": 0,
    "max": 9,
    "param_desc": "http://test/test.jpeg"
  } ],
  "output_params": [ {
    "url": "/v1/xxx/image",
    "protocol": "http",
    "method": "post",
    "param_name": "face_location",
    "param_type": "box",
    "param_desc": "face_location param value description"
  } ],
  "dependencies": [ {
    "installer": "pip",
    "packages": [ {
      "package_name": "numpy",
      "package_version": "1.5.0",
      "restraint": "ATLEAST"
    } ]
  } ],
  "model_algorithm": "object_detection",
  "model_metrics": "{\"f1\":0.52381,\"recall\":0.666667,\"precision\":0.466667,\"accuracy\":0.625}",
  "apis": [ {
    "url": "/v1/xxx/image",
    "protocol": "http",
    "method": "post",
    "input_params": {
      "type": "object",
      "properties": {
        "image_url": {
          "type": "string"
        }
      }
    },
    "output_params": {
      "type": "object",
      "properties": {
        "face_location": {
          "type": "box"
        }
      }
    }
  } ]
}

```

Example Responses

Status code: 200

The model is created.

```
{
  "model_id" : "7feb7235-ed9c-48ae-9833-2876b2458445"
}
```

Status Codes

Status Code	Description
200	The model is created.

Error Codes

See [Error Codes](#).

6.4 Obtaining Details About an AI Application

Function

This API is used to query details about an AI application based on the AI application ID.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/models/{model_id}

Table 6-28 Path Parameters

Parameter	Mandatory	Type	Description
model_id	Yes	String	Model ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 6-29 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API that is used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 6-30 Response body parameters

Parameter	Type	Description
model_version	String	Model version
source_job_version	String	Version of the source training job
source_location	String	OBS path where the model is located or the template address of the SWR image
source_job_id	String	ID of the source training job
source_copy	String	Whether to enable image replication. This parameter is valid only when model_type is set to Image . <ul style="list-style-type: none"> true: Default value, indicating that image replication is enabled. After this function is enabled, AI applications cannot be rapidly created, and modifying or deleting an image in the SWR source directory will not affect service deployment. false: Image replication is not enabled. After this function is disabled, AI applications can be rapidly created, but modifying or deleting an image in the SWR source directory will affect service deployment.
description	String	Model description
project	String	Project ID of the tenant to which a model belongs

Parameter	Type	Description
workspace_id	String	Workspace ID. Value 0 indicates the default workspace.
model_algorithm	String	Model algorithm type, which can be predict_analysis , object_detection , or image_classification
model_name	String	Model name
tenant	String	Account ID of the tenant to which a model belongs
model_docs	Array of GuideDoc objects	List of template documents
owner	String	ID of the tenant to which a model belongs
execution_code	String	OBS path for storing the execution code. The name of the execution code file is consistently to be customize_service.py .
schema_doc	String	Download address of the model schema file
image_addresses	String	Image path generated after model packaging
output_parameters	Array of ModelParamsInfo objects	Collection of output parameters of a model
health	ModelHealth object	Model health check API information.
runtime	String	Model runtime environment
model_metrics	String	Model precision
source_type	String	Model source type. This parameter is valid and its value is auto only if the model is deployed using ExeML.
model_type	String	Model type. The value is TensorFlow/Image/PyTorch/Template/MindSpore.
model_id	String	Model ID
dependencies	Array of ModelDependencies objects	Package required for running the code and model
model_size	Long	Model size, in bytes
model_status	String	Model status

Parameter	Type	Description
apis	String	All API input and output parameter information of a model, which is obtained from the model preview
model_source	String	Model source. Options: <ul style="list-style-type: none"> • auto: ExeML • algos: preset algorithm • custom: customized
tunable	Boolean	Whether a model can be tuned. Options: <ul style="list-style-type: none"> • true: Supported. • false: Not supported.
market_flag	Boolean	Whether a model is subscribed from the marketplace. Options: <ul style="list-style-type: none"> • true: from the market • false: no
publishable_flag	Boolean	Whether a model can be published to the marketplace. Options: <ul style="list-style-type: none"> • true: The product can be released to the market. • false: The product cannot be released to the marketplace.
model_labels	Array of strings	Model label array
labels_map	Map<String,String>	Model label map. The key is consistently to be labels , and the value is the model label array.
install_type	Array of strings	Supported service type for deployment
config	String	Model configurations
specification	ModelSpecification object	Minimum specifications for model deployment
input_params	Array of ModelParamInfo objects	Collection of input parameters of a model
create_at	Long	Time when a model is created, in milliseconds calculated from 1970.1.1 0:0:0 UTC.

Table 6-31 GuideDoc

Parameter	Type	Description
doc_url	String	HTTP(S) link of the document
doc_name	String	Document name, which must start with a letter. Enter 1 to 48 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.

Table 6-32 ModelHealth

Parameter	Type	Description
protocol	String	Request protocol of the health check API. Only HTTP is supported.
initial_delay_seconds	String	After an instance is started, a health check starts after the time configured in initial_delay_seconds expires.
timeout_seconds	String	Health check timeout.
url	String	URL of a health check API.

Table 6-33 ModelDependencies

Parameter	Type	Description
installer	String	Installation mode. Only pip is supported.
packages	Array of Packages objects	Collection of dependency packages

Table 6-34 Packages

Parameter	Type	Description
package_version	String	Version of a dependency package. If this parameter is left blank, the latest version is installed by default. Chinese characters and special characters (&!"<>=) are not allowed.
package_name	String	Name of a dependency package. Ensure that the package name is correct and available. Chinese characters and special characters (&!"<>=) are not allowed.

Parameter	Type	Description
restraint	String	Version restriction, which can be EXACT , ATLEAST , or ATMOST . This parameter is mandatory only when package_version is available.

Table 6-35 ModelSpecification

Parameter	Type	Description
min_cpu	String	Minimal CPU specifications
min_gpu	String	Minimal GPU specifications
min_memory	String	Minimum memory
min_ascend	String	Minimal Ascend specifications

Table 6-36 ModelParamsInfo

Parameter	Type	Description
protocol	String	Request protocol, for example, http .
url	String	API URL
min	Number	Minimum value of a numeric parameter.
method	String	Request method, for example, post .
max	Number	Maximum value of a numeric parameter.
param_desc	String	Parameter description.
param_name	String	Parameter name.
param_type	String	Parameter type.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/models/{model_id}
```

Example Responses

Status code: 200

Model details

```
{
  "model_id" : "10eb0091-887f-4839-9929-cbc884f1e20e",
  "model_name" : "mnist",
  "model_version" : "1.0.0",
  "runtime" : "python2.7",
```



```
"tenant": "6d28e85aa78b4e1a9b4bd83501bcd4a1",
"project": "d04c10db1f264cfef1966deff1a3527c",
"owner": "6d28e85aa78b4e1a9b4bd83501bcd4a1",
"source_location": "https://models.obs.xxxx.com/mnist",
"model_type": "TensorFlow",
"model_size": 5633481,
"model_status": "published",
"execution_code": "https://testmodel.obs.xxxx.com/customize_service.py",
"image_address": "100.125.5.235:20202/models/10eb0091-887f-4839-9929-cbc884f1e20e:1.0.0",
"input_params": [ {
  "url": "/",
  "method": "post",
  "protocol": "http",
  "param_name": "data",
  "param_type": "object",
  "param_desc": "{\type:\object\,\properties\:{\req_data\:{\items\:{\type:\object
\,\properties\:{}}\,\type:\array\}}}"
} ],
"output_params": [ {
  "url": "/",
  "method": "post",
  "protocol": "http",
  "param_name": "data",
  "param_type": "object",
  "param_desc": "{\type:\object\,\properties\:{\resp_data\:{\type:\array\,\items\:{\type
\:\object\,\properties\:{}}}}}"
} ],
"dependencies": [ {
  "installer": "pip",
  "packages": [ {
    "package_name": "pkg1",
    "package_version": "1.0.1",
    "restraint": "ATLEAST"
  } ]
} ],
"model_metrics": "{\f1\":0.52381,\recall\":0.666667,\precision\":0.466667,\accuracy\":0.625}",
"apis": "{\protocol\:\http\,\method\:\post\,\url\:\/\,\input_params\:{\type:\object
\,\properties\:{\data\:{\type:\object\,\properties\:{\req_data\:{\items\:{\type:\object
\,\properties\:{}}\,\type:\array\}}}\,\output_params\:{\type:\object\,\properties\:{\data\
\:\type:\object\,\properties\:{\resp_data\:{\type:\array\,\items\:{\type:\object\,\properties
\:{}}}}}}}"
"model_labels": [ ],
"labels_map": {
  "labels": [ ]
},
"workspace_id": "0",
"install_type": [ "realtime", "batch", "edge" ],
"specification": { },
"config": "{\model_algorithm\:\image_classification\,\model_source\:\auto\,\tunable
\:\false\,\downloadable_flag\:\true\,\algorithm\:\resnet_v2_50,mobilenet_v1\,\metrics\
{\f1\":0.912078373015873,\recall\":0.9125,\precision\":0.9340277777777778,\accuracy
\":0.263250724969475}\,\model_type\:\TensorFlow\,\runtime\:\tf1.13-python3.6-cpu\,\apis\
[{\protocol\:\https\,\url\:\/\,\method\:\post\,\request\:{\data\:{\type:\object\,\properties
\:\images\:{\type:\file\}}}\,\Content-type\:\multipart/form-data\}\,\response\:{\data\:{\type
\:\object\,\required\:[\predicted_label\,\scores\]\,\properties\:{\predicted_label\:{\type\:\string
\}\,\scores\:{\type\:\array\,\items\:{\type\:\array\,\minItems\":2,\maxItems\":2\,\items\:[{\type
\:\string\}\,\type\:\number\}}]}}}\,\Content-type\:\multipart/form-data\}}]\,\dependencies\
[{\installer\:\pip\,\packages\:[{\package_name\:\numpy\,\package_version\:\1.17.0\,\restraint
\:\EXACT\}\,\package_name\:\h5py\,\package_version\:\2.8.0\,\restraint\:\EXACT\}\,
{\package_name\:\Pillow\,\package_version\:\5.2.0\,\restraint\:\EXACT\}\,\package_name
\:\scipy\,\package_version\:\1.2.1\,\restraint\:\EXACT\}\,\package_name\:\resampy
\,\package_version\:\0.2.1\,\restraint\:\EXACT\}\,\package_name\:\scikit-learn\,\package_version
\:\0.19.1\,\restraint\:\EXACT\}}]}"
}
```

Status Codes

Status Code	Description
200	Model details

Error Codes

See [Error Codes](#).

6.5 Deleting an AI application

Function

This interface is used to delete an AI application based on the AI application ID. When cascade is set to true, the AI application specified by the AI application ID and other AI applications with the same name but different versions as the specified AI application are deleted. By default, only the AI application corresponding to the current AI application ID is deleted.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v1/{project_id}/models/{model_id}

Table 6-37 Path Parameters

Parameter	Mandatory	Type	Description
model_id	Yes	String	ID of the AI application to be deleted.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 6-38 Query Parameters

Parameter	Mandatory	Type	Description
cascade	No	Boolean	Indicates whether to perform cascading deletion. The default value is false, indicating that only the model with the specified model ID is deleted. If this parameter is set to true, the model specified by the model ID is deleted, and all models with the same name but different versions as the specified model are deleted. A maximum of 20 models can be deleted at a time. Excess models are not deleted.

Request Parameters

Table 6-39 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API that is used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 6-40 Response body parameters

Parameter	Type	Description
delete_succes s_list	Array of strings	ID list of models successfully deleted
delete_failed_l ist	Array of DeleteModelResponseFailedList objects	ID of the model that fails to be deleted and the failure cause list

Table 6-41 DeleteModelResponseFailedList

Parameter	Type	Description
error_msg	String	Error message of the model deletion failure
error_code	String	Error code of the model deletion failure
model_id	String	ID of a model that fails to be deleted

Example Requests

```
DELETE https://{endpoint}/v1/{project_id}/models/{model_id}
```

Example Responses

Status code: 200

Message indicating a successful deletion or a deletion failure

```
{
  "delete_success_list": [ "10eb0091-887f-4839-9929-cbc884f1e20e" ],
  "delete_failed_list": [ {
    "error_msg": "Failed to delete model because the model (759645d9-3672-4db1-bb6d-49ed58b84e10)
has been used to deploy a service.",
    "error_code": "ModelArts.3009",
    "model_id": "e527d311-a947-46da-a6e0-66c49945dfaa"
  } ]
}
```

Status Codes

Status Code	Description
200	Message indicating a successful deletion or a deletion failure

Error Codes

See [Error Codes](#).

7 App Authentication Management

7.1 Obtaining the App List

Function

This API is used to obtain the basic information about APIG apps. You can obtain only the information about the apps created by yourself.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/app-auth/apps

Table 7-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID .

Table 7-2 Query Parameters

Parameter	Mandatory	Type	Description
app_name	No	String	App name.
limit	No	String	Number of items displayed on one page. The default value is 1000 .

Parameter	Mandatory	Type	Description
offset	No	String	Sequence number of the page from which data is displayed on multiple pages. The default value is 0 .
order	No	String	Sorting mode of the returned app list. The value can be asc and desc . The default value is asc .
sort_by	No	String	Attribute by which the returned app list is sorted. The options are app_name , created_at , and updated_at . The default value is app_name .
workspace_id	No	String	Workspace ID.
iphertext_enabled	No	Boolean	Whether to display the AppSecret in plaintext.
app_ids	No	Array	App IDs to be displayed in plaintext.

Request Parameters

Table 7-3 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	No	String	Message body type. text/plain indicates that a temporary preview URL is returned. application/octet-stream indicates that a temporary download URL is returned.
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 7-4 Response body parameters

Parameter	Type	Description
apps	Array of ApigAppDetailInfo objects	Basic app information array, which may be an empty array
count	Integer	Number of queried apps
total_count	Integer	Total number of apps

Table 7-5 ApigAppDetailInfo

Parameter	Type	Description
app_codes	Array of strings	App code list. When app_type is APIC , this parameter is left blank.
app_id	String	App ID
app_key	String	App key
app_name	String	App name
app_remark	String	App description, which is left blank by default. The value contains a maximum of 200 characters.
app_secret	String	App secret key
app_type	String	App type. Enums: <ul style="list-style-type: none"> • APIC: This App is registered with the ROMA Connect gateway. • APIG: This App is registered with the shared API gateway. • DEDICATE_APIG: This App is registered with the dedicated API gateway.
bounded_api_count	Integer	Number of APIs bound to the app
created_at	Long	Time when an app is created
project_id	String	Project ID
updated_at	Long	App update time
user_id	String	ID of the user who creates the app

Status code: 401

Table 7-6 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 7-7 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 7-8 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/app-auth/apps
```

Example Responses

Status code: 200

OK

```
{
  "apps": [ {
    "app_id": "fb1a9eadd87b48abbd74b8ba1755dff",
    "app_name": "app_13e0",
    "app_remark": "ds",
    "app_key": "b11ae87581b04b5284aa92b0d4ae332c",
    "app_secret": "cb5d1b57368b4f129b635332a03bf0e3",
    "user_id": "04f258c8fb00d42a1f65c00df88cc4dc",
    "project_id": "04f258c84780d5a52f3bc00dc15aa5e7",
    "app_type": "APIG",
    "app_codes": [ "53a7c6de82be4671b93414adf98c1c507d5cef29fbd48d88a4d4db668b0f0ad",
      "3b5930537438461b9a3e81e5f21d56b49eadbe1047174574b9d2dde859beec54",
      "55804013463d4344ac37775ff8f6e9d8343933f8f0be420cb2e87bb5aad4c6a3" ],
    "created_at": 1683173880900,
    "updated_at": 1703160524345,
    "bounded_api_count": 29
  } ]
}
```



```
  }],  
  "count" : 1,  
  "total_count" : 1  
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

7.2 Creating Apps

Function

This API is used to create API Gateway applications (apps for short). Each user can create a maximum of five apps. You can apply for increasing the quota as required.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v1/{project_id}/app-auth/apps

Table 7-9 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 7-10 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	No	String	Message body type. text/plain indicates that a temporary preview URL is returned. application/octet-stream indicates that a temporary download URL is returned.
X-Auth-Token	Yes	String	User token

Table 7-11 Request body parameters

Parameter	Mandatory	Type	Description
app_name	Yes	String	App name.
app_remark	No	String	App remarks.
workspace_id	No	String	Workspace ID.

Response Parameters

Status code: 200

Table 7-12 Response body parameters

Parameter	Type	Description
app	ApigAppDetailInfo object	Basic information about the created app

Table 7-13 ApigAppDetailInfo

Parameter	Type	Description
app_codes	Array of strings	App code list. When app_type is APIC , this parameter is left blank.
app_id	String	App ID
app_key	String	App key
app_name	String	App name

Parameter	Type	Description
app_remark	String	App description, which is left blank by default. The value contains a maximum of 200 characters.
app_secret	String	App secret key
app_type	String	App type. Enums: <ul style="list-style-type: none"> • APIC: This App is registered with the ROMA Connect gateway. • APIG: This App is registered with the shared API gateway. • DEDICATE_APIG: This App is registered with the dedicated API gateway.
bounded_api_count	Integer	Number of APIs bound to the app
created_at	Long	Time when an app is created
project_id	String	Project ID
updated_at	Long	App update time
user_id	String	ID of the user who creates the app

Status code: 401

Table 7-14 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 7-15 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 7-16 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

```
POST https://{endpoint}/v1/{project_id}/app-auth/apps
{
  "app_name": "app_4ef0",
  "app_remark": ""
}
```

Example Responses

Status code: 200

OK

```
{
  "app": {
    "app_id": "logic-app-7ded3898-8306-49ee-a1df-2708f9aac83a",
    "app_name": "app_c8ae",
    "app_key": "9cdbfd0b65364fbe8b1c6cf29255a46f",
    "app_secret": "c736b99bdc33403ab0652bf91c00e99e",
    "user_id": "04f258c8fb00d42a1f65c00df88cc4dc",
    "project_id": "04f258c84780d5a52f3bc00dc15aa5e7",
    "app_type": "DEDICATE_APIG",
    "app_codes": [ ],
    "created_at": 1703162733450,
    "updated_at": 1703162733450,
    "bounded_api_count": 0
  }
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

7.3 Obtaining App Details

Function

This API is used to obtain details about a specified app.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/app-auth/apps/{app_id}

Table 7-17 Path Parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	App ID.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 7-18 Query Parameters

Parameter	Mandatory	Type	Description
workspace_id	No	String	Workspace ID.
iphertext_enabled	No	Boolean	Whether to display in plaintext.

Request Parameters

Table 7-19 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	No	String	Message body type. text/plain indicates that a temporary preview URL is returned. application/octet-stream indicates that a temporary download URL is returned.
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 7-20 Response body parameters

Parameter	Type	Description
app	ApigAppDetailInfo object	Basic information about the created app

Table 7-21 ApigAppDetailInfo

Parameter	Type	Description
app_codes	Array of strings	App code list. When app_type is APIC , this parameter is left blank.
app_id	String	App ID
app_key	String	App key
app_name	String	App name
app_remark	String	App description, which is left blank by default. The value contains a maximum of 200 characters.
app_secret	String	App secret key
app_type	String	App type. Enums: <ul style="list-style-type: none"> • APIC: This App is registered with the ROMA Connect gateway. • APIG: This App is registered with the shared API gateway. • DEDICATE_APIG: This App is registered with the dedicated API gateway.
bounded_api_count	Integer	Number of APIs bound to the app
created_at	Long	Time when an app is created
project_id	String	Project ID
updated_at	Long	App update time
user_id	String	ID of the user who creates the app

Status code: 401

Table 7-22 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 7-23 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 7-24 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

GET https://{endpoint}/v1/{project_id}/app-auth/apps/{app_id}

Example Responses

Status code: 200

OK

```
{
  "app": {
    "app_id": "logic-app-7ded3898-8306-49ee-a1df-2708f9aac83a",
    "app_name": "app_c8ae",
    "app_key": "9cdbfd0b65364fbe8b1c6cf29255a46f",
    "app_secret": "c736b99bdc33403ab0652bf91c00e99e",
    "user_id": "04f258c8fb00d42a1f65c00df88cc4dc",
    "project_id": "04f258c84780d5a52f3bc00dc15aa5e7",
    "app_type": "DEDICATE_APIG",
    "app_codes": [],
    "created_at": 1703162733450,
    "updated_at": 1703162733450,
    "bounded_api_count": 0
  }
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

7.4 Deleting an App

Function

This API is used to delete a specified app. Only the user who creates the app can delete it, and the app is not bound to any API.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v1/{project_id}/app-auth/apps/{app_id}

Table 7-25 Path Parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	App ID, which can be obtained by calling the API for obtaining the App list.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 7-26 Query Parameters

Parameter	Mandatory	Type	Description
workspace_id	No	String	Workspace ID.

Request Parameters

Table 7-27 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	No	String	Message body type. text/plain indicates that a temporary preview URL is returned. application/octet-stream indicates that a temporary download URL is returned.
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 401

Table 7-28 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 7-29 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

DELETE https://{endpoint}/v1/{project_id}/app-auth/apps/{app_id}

Example Responses

None

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden

Error Codes

See [Error Codes](#).

7.5 Adding an App Code

Function

This API is used to create an app code for a specified API Gateway app. Only the user who creates the app can create an app code, and only apps of the shared or dedicated API Gateway can have app codes.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v1/{project_id}/app-auth/apps/{app_id}/app-code

Table 7-30 Path Parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	App ID, which can be obtained by calling the API for obtaining the App list.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 7-31 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	No	String	Message body type. text/plain indicates that a temporary preview URL is returned. application/octet-stream indicates that a temporary download URL is returned.
X-Auth-Token	Yes	String	User token.

Table 7-32 Request body parameters

Parameter	Mandatory	Type	Description
app_name	Yes	String	App name.
app_remark	No	String	App remarks.
workspace_id	No	String	Workspace ID.

Response Parameters

Status code: 200

Table 7-33 Response body parameters

Parameter	Type	Description
app	ApigAppDetailInfo object	Basic information about the created app

Table 7-34 ApigAppDetailInfo

Parameter	Type	Description
app_codes	Array of strings	App code list. When app_type is APIC , this parameter is left blank.
app_id	String	App ID
app_key	String	App key
app_name	String	App name

Parameter	Type	Description
app_remark	String	App description, which is left blank by default. The value contains a maximum of 200 characters.
app_secret	String	App secret key
app_type	String	App type. Enums: <ul style="list-style-type: none"> • APIC: This App is registered with the ROMA Connect gateway. • APIG: This App is registered with the shared API gateway. • DEDICATE_APIG: This App is registered with the dedicated API gateway.
bounded_api_count	Integer	Number of APIs bound to the app
created_at	Long	Time when an app is created
project_id	String	Project ID
updated_at	Long	App update time
user_id	String	ID of the user who creates the app

Status code: 401

Table 7-35 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 7-36 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 7-37 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

```
POST https://{endpoint}/v1/{project_id}/app-auth/apps/{app_id}/app-code
{
  "workspace_id": "0",
  "app_name": "app_test",
  "app_remark": "test"
}
```

Example Responses

Status code: 200

OK

```
{
  "app": {
    "app_id": "f29eddd1443e4dceb76898f881c07a4d",
    "app_name": "app_xq0XT",
    "app_remark": "autotest",
    "app_key": "bcb835430eab4c72bd45e2315d98fdb9",
    "app_secret": "80dc4ab97b34456fbf73a04e83164a1b",
    "user_id": "04f258c8fb00d42a1f65c00df88cc4dc",
    "project_id": "04f258c84780d5a52f3bc00dc15aa5e7",
    "app_type": "APIG",
    "app_codes": [ "6fcc73e9a8d344ce8df47cdd252a532772e9bb762aa74c3ea99f3f2373806174" ],
    "created_at": 1698745606957,
    "updated_at": 1703162872355,
    "bounded_api_count": 0
  }
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

7.6 Resetting an App Code

Function

This API is used to reset a specified app code of an API Gateway app. Only the user who creates the app can reset it, and only apps of the shared or dedicated API Gateway can have app codes.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v1/{project_id}/app-auth/apps/{app_id}/app-code/{app_code}

Table 7-38 Path Parameters

Parameter	Mandatory	Type	Description
app_code	Yes	String	App code to be reset
app_id	Yes	String	App ID, which can be obtained by calling the API for obtaining the app list
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 7-39 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	No	String	Message body type. text/plain indicates that a temporary preview URL is returned. application/octet-stream indicates that a temporary download URL is returned.
X-Auth-Token	Yes	String	User token.

Table 7-40 Request body parameters

Parameter	Mandatory	Type	Description
app_name	Yes	String	App name.
app_remark	No	String	App remarks.
workspace_id	No	String	Workspace ID.

Response Parameters

Status code: 200

Table 7-41 Response body parameters

Parameter	Type	Description
app	ApigAppDetailInfo object	Basic information about the created app

Table 7-42 ApigAppDetailInfo

Parameter	Type	Description
app_codes	Array of strings	App code list. When app_type is APIC , this parameter is left blank.
app_id	String	App ID
app_key	String	App key
app_name	String	App name
app_remark	String	App description, which is left blank by default. The value contains a maximum of 200 characters.
app_secret	String	App secret key
app_type	String	App type. Enums: <ul style="list-style-type: none"> • APIC: This App is registered with the ROMA Connect gateway. • APIG: This App is registered with the shared API gateway. • DEDICATE_APIG: This App is registered with the dedicated API gateway.
bounded_api_count	Integer	Number of APIs bound to the app
created_at	Long	Time when an app is created

Parameter	Type	Description
project_id	String	Project ID
updated_at	Long	App update time
user_id	String	ID of the user who creates the app

Status code: 401

Table 7-43 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 7-44 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 7-45 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

```
PUT https://{endpoint}/v1/{project_id}/app-auth/apps/{app_id}/app-code/{app_code}
{
  "workspace_id": "0",
  "app_name": "app_test",
  "app_remark": "test"
}
```


Example Responses

Status code: 200

OK

```
{
  "app" : {
    "app_id" : "f29eddd1443e4dceb76898f881c07a4d",
    "app_name" : "app_xq0XT",
    "app_remark" : "autotest",
    "app_key" : "bcb835430eab4c72bd45e2315d98fdb9",
    "app_secret" : "80dc4ab97b34456fbf73a04e83164a1b",
    "user_id" : "04f258c8fb00d42a1f65c00df88cc4dc",
    "project_id" : "04f258c84780d5a52f3bc00dc15aa5e7",
    "app_type" : "APIG",
    "app_codes" : [ "873810a2cd4e4a9c88df5979411d6a50753c0af4024840fcac59e37ce38364e4" ],
    "created_at" : 1698745606957,
    "updated_at" : 1703162907779,
    "bounded_api_count" : 0
  }
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

7.7 Deleting an App Code

Function

This API is used to delete a specified app code of an API Gateway app. Only the user who creates the app can delete it, and only apps of the shared or dedicated API Gateway can have app codes.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v1/{project_id}/app-auth/apps/{app_id}/app-code/{app_code}

Table 7-46 Path Parameters

Parameter	Mandatory	Type	Description
app_code	Yes	String	App code to be deleted
app_id	Yes	String	App ID, which can be obtained by calling the API for obtaining the App list.
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 7-47 Query Parameters

Parameter	Mandatory	Type	Description
workspace_id	No	String	Workspace ID.

Request Parameters

Table 7-48 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	No	String	Message body type. text/plain indicates that a temporary preview URL is returned. application/octet-stream indicates that a temporary download URL is returned.
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 7-49 Response body parameters

Parameter	Type	Description
app	ApigAppDetailInfo object	Basic information about the created app

Table 7-50 ApigAppDetailInfo

Parameter	Type	Description
app_codes	Array of strings	App code list. When app_type is APIC , this parameter is left blank.
app_id	String	App ID
app_key	String	App key
app_name	String	App name
app_remark	String	App description, which is left blank by default. The value contains a maximum of 200 characters.
app_secret	String	App secret key
app_type	String	App type. Enums: <ul style="list-style-type: none"> • APIC: This App is registered with the ROMA Connect gateway. • APIG: This App is registered with the shared API gateway. • DEDICATE_APIG: This App is registered with the dedicated API gateway.
bounded_api_count	Integer	Number of APIs bound to the app
created_at	Long	Time when an app is created
project_id	String	Project ID
updated_at	Long	App update time
user_id	String	ID of the user who creates the app

Status code: 401

Table 7-51 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 7-52 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

```
DELETE https://{endpoint}/v1/{project_id}/app-auth/apps/{app_id}/app-code/{app_code}
```

Example Responses

Status code: 200

OK

```
{
  "app": {
    "app_id": "f29eddd1443e4dceb76898f881c07a4d",
    "app_name": "app_xq0XT",
    "app_remark": "autotest",
    "app_key": "bcb835430eab4c72bd45e2315d98fdb9",
    "app_secret": "80dc4ab97b34456fbf73a04e83164a1b",
    "user_id": "04f258c8fb00d42a1f65c00df88cc4dc",
    "project_id": "04f258c84780d5a52f3bc00dc15aa5e7",
    "app_type": "APIG",
    "app_codes": [],
    "created_at": 1698745606957,
    "updated_at": 1703162934072,
    "bounded_api_count": 0
  }
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden

Error Codes

See [Error Codes](#).

7.8 Resetting an AppSecret

Function

This API is used to reset the AppSecret of a specified API Gateway app. Only the user who creates the app can reset the AppSecret.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v1/{project_id}/app-auth/apps/{app_id}/app-secret

Table 7-53 Path Parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	App ID, which can be obtained by calling the API for obtaining the app list
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 7-54 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	No	String	Message body type. text/plain indicates that a temporary preview URL is returned. application/octet-stream indicates that a temporary download URL is returned.
X-Auth-Token	Yes	String	User token.

Table 7-55 Request body parameters

Parameter	Mandatory	Type	Description
app_name	Yes	String	App name.
app_remark	No	String	App remarks.
workspace_id	No	String	Workspace ID.

Response Parameters

Status code: 200

Table 7-56 Response body parameters

Parameter	Type	Description
app	ApigAppDetailInfo object	Basic information about the created app

Table 7-57 ApigAppDetailInfo

Parameter	Type	Description
app_codes	Array of strings	App code list. When app_type is APIC , this parameter is left blank.
app_id	String	App ID
app_key	String	App key
app_name	String	App name
app_remark	String	App description, which is left blank by default. The value contains a maximum of 200 characters.
app_secret	String	App secret key
app_type	String	App type. Enums: <ul style="list-style-type: none"> ● APIC: This App is registered with the ROMA Connect gateway. ● APIG: This App is registered with the shared API gateway. ● DEDICATE_APIG: This App is registered with the dedicated API gateway.
bounded_api_count	Integer	Number of APIs bound to the app
created_at	Long	Time when an app is created

Parameter	Type	Description
project_id	String	Project ID
updated_at	Long	App update time
user_id	String	ID of the user who creates the app

Status code: 401

Table 7-58 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 7-59 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 7-60 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

```
PUT https://{endpoint}/v1/{project_id}/app-auth/apps/{app_id}/app-secret
{
  "workspace_id": "0",
  "app_name": "app_test",
  "app_remark": "test"
}
```

Example Responses

Status code: 200

OK

```
{
  "app" : {
    "app_id" : "f29eddd1443e4dceb76898f881c07a4d",
    "app_name" : "app_xq0XT",
    "app_remark" : "autotest",
    "app_key" : "bcb835430eab4c72bd45e2315d98fdb9",
    "app_secret" : "55816679b0f8447c9d51d2c35e4f679a",
    "user_id" : "04f258c8fb00d42a1f65c00df88cc4dc",
    "project_id" : "04f258c84780d5a52f3bc00dc15aa5e7",
    "app_type" : "APIG",
    "app_codes" : [ ],
    "created_at" : 1698745606957,
    "updated_at" : 1703162969843,
    "bounded_api_count" : 0
  }
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

7.9 Obtaining the List of APIs Bound to an App

Function

This API is used to obtain the list of APIs bound to an app.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/app-auth/apps/{app_id}/auth-apis

Table 7-61 Path Parameters

Parameter	Mandatory	Type	Description
app_id	Yes	String	App ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 7-62 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	String	Number of items displayed on one page. The default value is 1000 .
offset	No	String	Sequence number of the page from which data is displayed on multiple pages. The default value is 0 .
order	No	String	Sorting mode of the returned app list. The value can be asc and desc . The default value is asc .
service_name	No	String	Name of the service to which the API belongs. Fuzzy search is supported.
sort_by	No	String	Attribute by which the returned app list is sorted. The options are app_name , created_at , and updated_at . The default value is app_name .
workspace_id	No	String	Workspace ID.

Request Parameters

Table 7-63 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	No	String	Message body type. text/plain indicates that a temporary preview URL is returned. application/octet-stream indicates that a temporary download URL is returned.
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 7-64 Response body parameters

Parameter	Type	Description
apis	Array of AuthTypeApiBasicInfo objects	API authentication information list.
count	Integer	Number of records.
total_count	Integer	Total number of records.

Table 7-65 AuthTypeApiBasicInfo

Parameter	Type	Description
api_id	String	API ID
api_method	String	Request method, which can be GET , POST , PUT , DELETE , HEAD , PATCH , OPTIONS , or ANY . ANY is the default value.
api_name	String	API name
api_remark	String	API description. The value contains a maximum of 255 characters.

Parameter	Type	Description
auth_type	String	API authentication mode. The options are: Enums: <ul style="list-style-type: none"> • NONE: no authentication • APP: App authentication • IAM: IAM authentication
predict_url	String	Prediction URL
service_id	String	Service ID
service_name	String	Service name
support_app_code	Boolean	Whether to support the App code

Status code: 401

Table 7-66 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 7-67 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 7-68 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/app-auth/apps/{app_id}/auth-apis
```

Example Responses

Status code: 200

OK

```
{
  "apis": [ {
    "api_id": "7e0d272df0e94297b7d4046bada3f158",
    "api_name": "infer_ae20fc9fb37c48c28ebc3f3a638c9f48",
    "api_method": "ANY",
    "predict_url": "https://b86b2d069324491fbd66940e4533b45c.apig.xxxxxx.com/v1/infers/ae20fc9f-
b37c-48c2-8ebc-3f3a638c9f48",
    "support_app_code": true,
    "service_id": "ae20fc9f-b37c-48c2-8ebc-3f3a638c9f48",
    "service_name": "service-3c02"
  } ],
  "count": 1
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

7.10 Registering an API and Authorizing the API to an App

Function

This API is used to register an API and authorize the API to an App. Only Huawei Cloud users who have the permission to update the service can call this API.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v1/{project_id}/services/{service_id}/app-auth-api

Table 7-69 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
service_id	Yes	String	Service ID, which can be obtained by querying services

Request Parameters

Table 7-70 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token

Table 7-71 Request body parameters

Parameter	Mandatory	Type	Description
apps	Yes	Array of Apps objects	App list
workspace_id	No	String	Workspace ID.

Table 7-72 Apps

Parameter	Mandatory	Type	Description
app_id	No	String	App ID, which can be obtained by querying apps

Response Parameters

Status code: 200

Table 7-73 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-74 Response body parameters

Parameter	Type	Description
api	AuthTypeApiBasicInfo object	API details.
auth_result	Array of AppAuthResultInfo objects	Authorization result.

Table 7-75 AuthTypeApiBasicInfo

Parameter	Type	Description
api_id	String	API ID
api_method	String	Request method, which can be GET , POST , PUT , DELETE , HEAD , PATCH , OPTIONS , or ANY . ANY is the default value.
api_name	String	API name
api_remark	String	API description. The value contains a maximum of 255 characters.
auth_type	String	API authentication mode. The options are: Enums: <ul style="list-style-type: none"> ● NONE: no authentication ● APP: App authentication ● IAM: IAM authentication
predict_url	String	Prediction URL
service_id	String	Service ID
service_name	String	Service name
support_app_code	Boolean	Whether to support the App code

Table 7-76 AppAuthResultInfo

Parameter	Type	Description
api_id	String	API ID
app_id	String	App ID, which can be obtained by querying apps
auth_id	String	Authorization ID, which is empty if the authorization fails
reason	String	Authorization or authorization cancellation failure reason, which is empty if the authorization is successful
success	Boolean	Whether authorization or authorization cancellation is successful

Status code: 400

Table 7-77 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-78 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 401

Table 7-79 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-80 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.

Parameter	Type	Description
error_msg	String	Error message.

Status code: 403

Table 7-81 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-82 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 500

Table 7-83 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-84 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

Creating an API and authorizing an App

```
POST https://{endpoint}/v1/{project_id}/services/{service_id}/app-auth-api
{
  "apps": [ {
    "app_id": "e2fb64be3be9418bb0f570c60f0ed93f"
  } ]
}
```


Example Responses

Status code: 200

OK

```
{
  "api": {
    "api_id": "b9c78dbb50d04230aab90e35e141fccf",
    "api_name": "infer_456963f1737c4de08bee5b4f6f3a8fa3",
    "api_method": "ANY",
    "predict_url": "https://d566c7efafe04a26a83d3a8475602ee3.apig.xxxxx.com/v1/infers/456963f1-737c-4de0-8bee-5b4f6f3a8fa3",
    "support_app_code": true,
    "service_id": "456963f1-737c-4de0-8bee-5b4f6f3a8fa3",
    "service_name": "service-129c-test"
  },
  "auth_result": [ {
    "api_id": "b9c78dbb50d04230aab90e35e141fccf",
    "app_id": "e2fb64be3be9418bb0f570c60f0ed93f",
    "success": true
  } ]
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
500	Server Internal Error

Error Codes

See [Error Codes](#).

7.11 Deleting an API

Function

This API is used to delete a specified API. Only users who have the permission to delete the service to which the API belongs can delete the API.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v1/{project_id}/services/{service_id}/app-auth-apis/{api_id}

Table 7-85 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
service_id	Yes	String	Service ID.
api_id	Yes	String	API ID.

Request Parameters

Table 7-86 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 204

Table 7-87 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Status code: 401

Table 7-88 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-89 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 7-90 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-91 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 500

Table 7-92 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-93 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

```
DELETE https://{endpoint}/v1/{project_id}/services/{service_id}/app-auth-apis/{api_id}
```

Example Responses

None

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden
500	Server Internal Error

Error Codes

See [Error Codes](#).

7.12 Authorizing an API to an App

Function

This API is used to authorize a specified API to an App. The API authentication mode must be App authentication. The user who creates an App must be the creator of the service to which the API belongs, and the request user must have the update permission on the service to which the API belongs.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v1/{project_id}/services/{service_id}/app-auth-apis/{api_id}/app-auth-api

Table 7-94 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
service_id	Yes	String	ID of the service to which the API belongs
api_id	Yes	String	API ID

Request Parameters

Table 7-95 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token

Table 7-96 Request body parameters

Parameter	Mandatory	Type	Description
apps	Yes	Array of Apps objects	App list
workspace_id	No	String	Workspace ID.

Table 7-97 Apps

Parameter	Mandatory	Type	Description
app_id	No	String	App ID, which can be obtained by querying apps

Response Parameters

Status code: 200

Table 7-98 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-99 Response body parameters

Parameter	Type	Description
auth_result	Array of AppAuthResultInfo objects	Authorization result list.

Table 7-100 AppAuthResultInfo

Parameter	Type	Description
api_id	String	API ID
app_id	String	App ID, which can be obtained by querying apps
auth_id	String	Authorization ID, which is empty if the authorization fails
reason	String	Authorization or authorization cancellation failure reason, which is empty if the authorization is successful
success	Boolean	Whether authorization or authorization cancellation is successful

Status code: 401

Table 7-101 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-102 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 7-103 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-104 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.

Parameter	Type	Description
error_msg	String	Error message.

Status code: 404

Table 7-105 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-106 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 500

Table 7-107 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-108 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

Authorizing an App to a specified API

```
POST https://{endpoint}/v1/{project_id}/services/{service_id}/app-auth-apis/{api_id}/app-auth-api
{
  "apps": [ {
    "app_id": "e2fb64be3be9418bb0f570c60f0ed93f"
  } ]
}
```

Example Responses

Status code: 200

OK

```
{
  "auth_result": [ {
    "api_id": "logic-api-fe84e858-49ec-41c6-80d7-a34fc22435c2",
    "app_id": "logic-app-ce0d0a41-451d-4563-94d9-acc75b5e440f",
    "success": true
  } ]
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found
500	Server Internal Error

Error Codes

See [Error Codes](#).

7.13 Updating API Authorization

Function

This API is used to update the authorization relationship of an API. The API authentication mode must be App authentication. The user who creates an App must be the creator of the service to which the API belongs, and the request user must have the update permission on the service to which the API belongs.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v1/{project_id}/services/{service_id}/app-auth-apis/{api_id}/app-auth-api

Table 7-109 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
service_id	Yes	String	ID of the service to which the API belongs
api_id	Yes	String	API ID

Request Parameters

Table 7-110 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token

Table 7-111 Request body parameters

Parameter	Mandatory	Type	Description
apps	Yes	Array of Apps objects	App list
workspace_id	No	String	Workspace ID.

Table 7-112 Apps

Parameter	Mandatory	Type	Description
app_id	No	String	App ID, which can be obtained by querying apps

Response Parameters

Status code: 200

Table 7-113 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-114 Response body parameters

Parameter	Type	Description
auth_result	Array of AppAuthResultInfo objects	Authorization result list.

Table 7-115 AppAuthResultInfo

Parameter	Type	Description
api_id	String	API ID
app_id	String	App ID, which can be obtained by querying apps
auth_id	String	Authorization ID, which is empty if the authorization fails
reason	String	Authorization or authorization cancellation failure reason, which is empty if the authorization is successful
success	Boolean	Whether authorization or authorization cancellation is successful

Status code: 401

Table 7-116 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-117 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 7-118 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-119 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 7-120 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-121 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

Updating the authorization relationship of an API

```
PUT https://{endpoint}/v1/{project_id}/services/{service_id}/app-auth-apis/{api_id}/app-auth-api
{
  "apps": [ {
    "app_id": "fb1a9eadd87b48abbd74b8ba1755dff"
  } ]
}
```

Example Responses

Status code: 200

OK

```
{
  "auth_result": [ {
    "api_id": "logic-api-fe84e858-49ec-41c6-80d7-a34fc22435c2",
  } ]
}
```

```

"app_id" : "logic-app-9b9acb40-6df6-4623-9f87-e0dae781d867",
"success" : true
}, {
"api_id" : "logic-api-fe84e858-49ec-41c6-80d7-a34fc22435c2",
"app_id" : "logic-app-ce0d0a41-451d-4563-94d9-acc75b5e440f",
"success" : true
} ]
}

```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

7.14 Canceling the Authorization of an API to an App

Function

This API is used to cancel the authorization of a specified API to an app. The request user must have the update permission on the service to which the API belongs.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v1/{project_id}/services/{service_id}/app-auth-apis/{api_id}/app-auth-api

Table 7-122 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
service_id	Yes	String	ID of the service to which the API belongs

Parameter	Mandatory	Type	Description
api_id	Yes	String	API ID

Table 7-123 Query Parameters

Parameter	Mandatory	Type	Description
workspace_id	No	String	Workspace ID.

Request Parameters

Table 7-124 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 7-125 Request body parameters

Parameter	Mandatory	Type	Description
apps	Yes	Array of Apps objects	App list
workspace_id	No	String	Workspace ID.

Table 7-126 Apps

Parameter	Mandatory	Type	Description
app_id	No	String	App ID, which can be obtained by querying apps

Response Parameters

Status code: 200

Table 7-127 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-128 Response body parameters

Parameter	Type	Description
unauth_result	Array of AppAuthResultInfo objects	Authorization cancellation result

Table 7-129 AppAuthResultInfo

Parameter	Type	Description
api_id	String	API ID
app_id	String	App ID, which can be obtained by querying apps
auth_id	String	Authorization ID, which is empty if the authorization fails
reason	String	Authorization or authorization cancellation failure reason, which is empty if the authorization is successful
success	Boolean	Whether authorization or authorization cancellation is successful

Status code: 401

Table 7-130 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-131 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 7-132 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-133 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

Canceling the authorization of a specified API to an App

```
DELETE https://{endpoint}/v1/{project_id}/services/{service_id}/app-auth-apis/{api_id}/app-auth-api
{
  "apps": [ {
    "app_id": "fb1a9eadd87b48abbd74b8ba1755dfffd"
  } ]
}
```

Example Responses

Status code: 200

OK

```
{
  "unauth_result": [ {
    "api_id": "logic-api-fe84e858-49ec-41c6-80d7-a34fc22435c2",
    "app_id": "logic-app-9b9acb40-6df6-4623-9f87-e0dae781d867",
    "success": true
  } ]
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden

Error Codes

See [Error Codes](#).

7.15 Obtaining API Authorization Relationships

Function

This API is used to obtain the authorization relationships between specified APIs and Apps. The API authentication mode must be App authentication. Administrators can obtain authorization information about all APIs. Common users can obtain only authorization information about APIs of services on which they have access permissions.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/services/{service_id}/app-auth-apis/{api_id}/api-auths

Table 7-134 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
service_id	Yes	String	Service ID.
api_id	Yes	String	API ID

Table 7-135 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	String	Number of items displayed on one page. The default value is 1000 .
offset	No	String	Sequence number of the page from which data is displayed on multiple pages. The default value is 0 .
app_name	No	String	App name. Fuzzy search is supported.

Parameter	Mandatory	Type	Description
order	No	String	Sorting mode of the returned App list. The value can be asc and desc . The default value is asc .
show_only	No	String	App information. Enums: <ul style="list-style-type: none"> • AUTH: Only information about authorized Apps is displayed. • UNAUTH: Only information about unauthorized Apps is displayed. By default, this parameter is left blank, indicating that information about all visible Apps is displayed.
sort_by	No	String	Sorting field of the returned App list. Enums: <ul style="list-style-type: none"> • app_name: application name • created_at: application creation time • updated_at: application update time The default value is app_name.
workspace_id	No	String	Workspace ID.
iphertext_enabled	No	Boolean	Whether to display the AppSecret in plaintext.
app_ids	No	Array	App IDs to be displayed in plaintext.

Request Parameters

None

Response Parameters

Status code: 200

Table 7-136 Response body parameters

Parameter	Type	Description
auths	Array of ApiAuthInfo objects	Authorization array
count	Integer	Number of queried authorizations
total_count	Integer	Total number of authorizations

Table 7-137 ApiAuthInfo

Parameter	Type	Description
app	ApigAppDetailInfo object	App information
authed	Boolean	Whether the API has been authorized to the app

Table 7-138 ApigAppDetailInfo

Parameter	Type	Description
app_codes	Array of strings	App code list. When app_type is APIC , this parameter is left blank.
app_id	String	App ID
app_key	String	App key
app_name	String	App name
app_remark	String	App description, which is left blank by default. The value contains a maximum of 200 characters.
app_secret	String	App secret key
app_type	String	App type. Enums: <ul style="list-style-type: none"> • APIC: This App is registered with the ROMA Connect gateway. • APIG: This App is registered with the shared API gateway. • DEDICATE_APIG: This App is registered with the dedicated API gateway.
bounded_api_count	Integer	Number of APIs bound to the app

Parameter	Type	Description
created_at	Long	Time when an app is created
project_id	String	Project ID
updated_at	Long	App update time
user_id	String	ID of the user who creates the app

Status code: 400

Table 7-139 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

GET https://{endpoint}/v1/{project_id}/services/{service_id}/app-auth-apis/{api_id}/api-auths

Example Responses

Status code: 200

OK

```
{
  "auths" : [ {
    "app" : {
      "app_id" : "fb1a9eadd87b48abbd74b8ba1755dff",
      "app_name" : "app_13e0",
      "app_remark" : "ds",
      "app_key" : "b11ae87581b04b5284aa92b0d4ae332c",
      "app_secret" : "cb5d1b57368b4f129b635332a03bf0e3",
      "user_id" : "04f258c8fb00d42a1f65c00df88cc4dc",
      "project_id" : "04f258c84780d5a52f3bc00dc15aa5e7",
      "app_type" : "APIG",
      "app_codes" : [ "53a7c6de82be4671b93414adf98c1c507d5cef29fdd48d88a4dddb668b0f0ad" ],
      "created_at" : 1683173880900,
      "updated_at" : 1700531228874,
      "bounded_api_count" : 28
    },
    "authed" : true
  } ],
  "count" : 1,
  "total_count" : 1
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See [Error Codes](#).

8 Service Management

8.1 Updating the Service Through the Patch Operation

Function

This API is used to update the service through the patch operation. For details about the patch format, see [json patch](#).

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PATCH /v1/{project_id}/services/{service_id}

Table 8-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
service_id	Yes	String	Service ID

Request Parameters

Table 8-2 Request header parameters

Parameter	Mandatory	Type	Description
X-ModelArts-User-ID	No	String	User ID required for using the agency token to verify the workspace
X-Auth-Token	Yes	String	User token

Table 8-3 Request body parameters

Parameter	Mandatory	Type	Description
[items]	Yes	Array of PatchServiceV2RequestBody objects	Request body in the JSON patch format. Currently, the path can only be prefixed with /config , that is, only model data can be modified.

Table 8-4 PatchServiceV2RequestBody

Parameter	Mandatory	Type	Description
op	No	String	Operation type. Currently, only replace is supported.
path	No	String	Operation path. The prefix is fixed at /config/0/ .
value	No	String	Modified value

Response Parameters

Status code: 200

Table 8-5 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Request link ID, which can be used for log tracing

Table 8-6 Response body parameters

Parameter	Type	Description
update_time	String	Update time. This parameter is returned only when the service configuration upgrade is triggered. For example, if the config parameter is modified, the update result can be filtered from the service update records based on this time. This parameter is not returned when the description is modified or the service is started or stopped.
resource_ids	String	Updated resource IDs.

Status code: 400

Table 8-7 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Request link ID, which can be used for log tracing

Table 8-8 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

Update the service through the patch operation.

PATCH https://{endpoint}/v1/{project_id}/services/{service_id}

```
[ {
  "op": "replace",
  "path": "/config/0/envs",
  "value": { }
}, {
  "op": "replace",
  "path": "/config/0/model_id",
  "value": "a9542b46-8dfd-4184-bd81-c8d8946edb47"
}, {
  "op": "replace",
  "path": "/config/0/additional_properties",
  "value": {
    "persistent_volumes": [ {
      "storage_type": "obs_pfs",
      "source_address": "/dongcong4",
      "mount_path": "/var/tmp",
```

```
"storage_type_text" : "atelier_webservice_detail_model_config_volumes_type_obs"
  } ]
}
}, {
  "op" : "replace",
  "path" : "/config/0/specification",
  "value" : "modelarts.vm.ai1.a310"
}, {
  "op" : "replace",
  "path" : "/config/0/pool_name",
  "value" : "pool-c8e2-04f258c84780d5a52f3bc00dc15aa5e7"
} ]
```

Example Responses

Status code: 200

OK

```
{
  "update_time" : 1700625410586,
  "resource_ids" : [ "INF-ae2aa85ce2a3fcac-1700530937033", "INF-ae2aa85ca9542b46-1700530937026" ]
}
```

Status Codes

Status Code	Description
200	OK
400	Invalid parameter

Error Codes

See [Error Codes](#).

8.2 Obtaining Service Monitoring

Function

This API is used to obtain service monitoring information.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/services/{service_id}/monitor

Table 8-9 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
service_id	Yes	String	Service ID

Table 8-10 Query Parameters

Parameter	Mandatory	Type	Description
node_id	No	String	ID of the edge node to be obtained. This parameter is available only when infer_type is set to edge . By default, all nodes are obtained.

Request Parameters

Table 8-11 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API that is used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 8-12 Response body parameters

Parameter	Type	Description
service_name	String	Service name
service_id	String	Service ID
monitors	Array of Monitor objects	Monitoring details

Parameter	Type	Description
service_running_instance_count	Integer	Number of running service instances
service_instance_count	Integer	Number of service instances
req_count_per_min	Long	Total number of service calls in the last minute

Table 8-13 Monitor

Parameter	Type	Description
failed_times	Integer	Number of times that a model instance fails to be called. This parameter is available for real-time services.
model_version	String	Model version, which is available for real-time services
cpu_memory_total	Integer	Total memory, in MB
gpu_usage	Float	Number of used GPUs
node_name	String	Node name, which is available for edge services
gpu_total	Float	Total number of GPUs
model_id	String	Model ID, which is available for real-time services
invocation_times	Integer	Number of times that a model instance is called. This parameter is available for real-time services.
cpu_core_usage	Float	Number of used CPU cores
cpu_core_total	Float	Total number of CPU cores
model_name	String	Model name, which is available for real-time services
cpu_memory_usage	Integer	Used memory, in MB
node_id	String	Edge node ID, which is available for edge services

Parameter	Type	Description
model_running_instance_count	Integer	Number of running model instances
model_instance_count	Integer	Number of model instances
gpu_memory_total	Float	Total GPU memory, in MB.
gpu_memory_usage	Float	Used GPU memory, in MB.
npu_total	Float	Total number of NPUs.
npu_usage	Float	Number of used NPUs.
npu_memory_total	Float	Total NPU memory, in MB.
npu_memory_usage	Float	Used NPU memory, in MB.

Example Requests

GET https://{endpoint}/v1/{project_id}/services/{service_id}/monitor

Example Responses

Status code: 200

Monitoring information

```
{
  "service_name": "mnist",
  "service_id": "195c1f2d-136d-40af-a0f3-db5717d2634a",
  "monitors": [ {
    "failed_times": 1,
    "model_version": "1.0.0",
    "cpu_core_total": 4,
    "cpu_memory_total": 8192,
    "model_name": "minst",
    "gpu_usage": 0.6,
    "cpu_memory_usage": 2011,
    "gpu_total": 1,
    "model_id": "0e07b41b-173e-42db-8c16-8e1b44cc0d44",
    "invocation_times": 50,
    "cpu_core_usage": 2.4
  } ]
}
```

Status Codes

Status Code	Description
200	Monitoring information

Error Codes

See [Error Codes](#).

8.3 Obtaining Services

Function

This API is used to obtain model services.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/services

Table 8-14 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 8-15 Query Parameters

Parameter	Mandatory	Type	Description
service_id	No	String	Service ID. By default, the service ID is not filtered.
service_name	No	String	Service name. By default, the service name is not filtered.
model_id	No	String	Model ID. By default, the model ID is not filtered.

Parameter	Mandatory	Type	Description
workspace_id	No	String	Workspace ID. If this parameter is not configured, only the default workspace is obtained.
infer_type	No	String	Inference mode. By default, the inference mode is not filtered. Options: <ul style="list-style-type: none">• real-time• batch• edge

Parameter	Mandatory	Type	Description
status	No	String	<p>Service status. By default, the service status is not filtered. Options:</p> <ul style="list-style-type: none"> ● running: The service is running properly. ● deploying: The service is being deployed, including image creation and resource scheduling deployment. ● concerning: An alarm has been generated, indicating that some backend instances malfunction. ● failed: Deploying the service failed. For details about the failure cause, see the event and log tab pages. ● stopped: The service has been stopped. ● finished: Service running is completed. This status is available only for batch services. ● stopping: The VM is being stopped. ● deleting: The VM is being deleted. ● pending: to be started. This state is available only when the system is online. ● waiting: The resource is queuing. This state is available only for online services.
offset	No	Integer	Start page for pagination display. The default value is 0 .
limit	No	Integer	Maximum number of records returned on each page. Default value: 1000

Parameter	Mandatory	Type	Description
sort_by	No	String	Sorting field. Enums: <ul style="list-style-type: none"> • publish_at: service publishing time, which is the default value • service_name: service name • transition_at: update time
order	No	String	Sorting order. Enums: <ul style="list-style-type: none"> • asc: ascending order • desc: descending order (default value)
tags	No	String	Tag. By default, tags are not filtered.

Request Parameters

Table 8-16 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API that is used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 8-17 Response body parameters

Parameter	Type	Description
total_count	Integer	Total number of services that meet the search criteria when no paging is performed
count	Integer	Number of services in the query result. If offset and limit are not configured, the values of count and total are the same.

Parameter	Type	Description
services	Array of ListServices objects	Collection of obtained services

Table 8-18 ListServices

Parameter	Type	Description
failed_times	Long	Number of failed service calls
owner	String	User to which a service belongs
due_time	Number	Time when an online service automatically stops, in milliseconds calculated from 1970.1.1 0:0:0 UTC. This parameter is not returned if automatic stop is not configured.
finished_time	Number	Batch service completion time, in milliseconds calculated from 1970.1.1 0:0:0 UTC. This parameter is returned only when the service is a batch service.
infer_type	String	Inference mode. Options: <ul style="list-style-type: none"> • real-time • batch • edge
service_name	String	Service name
description	String	Service description
project	String	Project to which a service belongs
invocation_times	Long	Total number of service calls
publish_at	Long	Latest service release time, in milliseconds calculated from 1970.1.1 0:0:0 UTC.
workspace_id	String	Workspace ID
schedule	Array of Schedule objects	Service scheduling configuration. If this parameter is not configured, no value will be returned.
start_time	Number	Batch service start time, in milliseconds calculated from 1970.1.1 0:0:0 UTC. This parameter is returned only when the service is a batch service.
operation_time	Number	Operation time of a request

Parameter	Type	Description
is_shared	Boolean	Whether a service is subscribed True indicates that the service is a subscription service.
service_id	String	Service ID
progress	Integer	Deployment progress. This parameter is available when the status is deploying .
shared_count	Number	Number of subscribed services
tenant	String	Tenant to which a service belongs
status	String	Service status. Options: <ul style="list-style-type: none"> • running: The service is running properly. • deploying: The service is being deployed, including image creation and resource scheduling deployment. • concerning: An alarm has been generated, indicating that some backend instances malfunction. • failed: Deploying the service failed. For details about the failure cause, see the event and log tab pages. • stopped: The service has been stopped. • finished: Service running is completed. This status is available only for batch services.
is_opened_sample_collection	String	Whether to enable data collection, which defaults to false
transition_at	Number	Time when the service status changes
is_free	Boolean	Whether a free-of-charge flavor is used
additional_properties	Map<String,String>	Additional service attribute. If this parameter is not configured, no value will be returned.

Table 8-19 Schedule

Parameter	Type	Description
duration	Integer	Value mapping a time unit. For example, if the task stops after two hours, set time_unit to HOURS and duration to 2 .
time_unit	String	Scheduling time unit. Possible values are DAYS , HOURS , and MINUTES .

Parameter	Type	Description
type	String	Scheduling type. Only the value stop is supported.

Example Requests

GET https://{endpoint}/v1/{project_id}/services

Example Responses

Status code: 200

Service list

```
{
  "total_count": 1,
  "count": 1,
  "services": [ {
    "failed_times": 1,
    "owner": "b575785bcece44beb23597770fb819f9",
    "infer_type": "real-time",
    "service_name": "mnist",
    "description": "",
    "project": "b575785bcece44beb23597770fb819f9",
    "invocation_times": 50,
    "publish_at": 1243143243,
    "workspace_id": 0,
    "is_shared": false,
    "service_id": "195c1f2d-136d-40af-a0f3-db5717d2634a",
    "shared_count": 0,
    "tenant": "b575785bcece44beb23597770fb819f9",
    "status": "running"
  } ]
}
```

Status Codes

Status Code	Description
200	Service list

Error Codes

See [Error Codes](#).

8.4 Deploying Services

Function

This API is used to deploy a model as a service.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v1/{project_id}/services

Table 8-20 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 8-21 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API that is used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Table 8-22 Request body parameters

Parameter	Mandatory	Type	Description
workspace_id	No	String	ID of the workspace to which a service belongs. The default value is 0 , indicating the default workspace.
schedule	No	Array of Schedule objects	Service scheduling configuration, which can be configured only for real-time services. By default, this parameter is not used. Services run for a long time.

Parameter	Mandatory	Type	Description
cluster_id	No	String	Dedicated resource pool ID. By default, this parameter is left blank, indicating that dedicated resource pools are not used. When using a dedicated resource pool to deploy services, ensure that the cluster is running properly. After this parameter is configured, the network configuration of the cluster is used, and the vpc_id parameter does not take effect. If both this parameter and cluster_id in real-time config are configured, cluster_id in real-time config is preferentially used. If a dedicated resource pool is used, either cluster_id or pool_name must be specified.
pool_name	No	String	ID of a new-version dedicated resource pool. This parameter is left blank by default, indicating that no dedicated resource pool is used. When using a dedicated resource pool to deploy services, ensure that the cluster is running properly. If both this parameter and pool_name in real-time config are configured, pool_name in real-time config is preferentially used. If a dedicated resource pool is used, either cluster_id or pool_name must be specified.

Parameter	Mandatory	Type	Description
infer_type	Yes	String	<p>Inference mode. The value is real-time/batch/edge.</p> <ul style="list-style-type: none"> • real-time indicates a real-time service. A model is deployed as a web service. Service, which provides online test UI and monitoring capabilities. The service keeps running. • Batch is a batch service. A batch service can perform inference on batch data and automatically stops after data processing is complete. • edge indicates an edge service. A model is deployed as a web on an edge node through Intelligent EdgeFabric (IEF). Service. The node must be created on Intelligent EdgeFabric (IEF) in advance.
vpc_id	No	String	<p>ID of the VPC to which a real-time service instance is deployed. By default, this parameter is left blank. In this case, ModelArts allocates a dedicated VPC to each user, and users are isolated from each other. To access other service components in the VPC of the service instance, set this parameter to the ID of the corresponding VPC. Once a VPC is configured, it cannot be modified. If both vpc_id and cluster_id are configured, only the dedicated resource pool takes effect.</p>
service_name	Yes	String	<p>Service name, which consists of 1 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.</p>

Parameter	Mandatory	Type	Description
description	No	String	Service remarks. By default, this parameter is left blank. The value contains a maximum of 100 characters and cannot contain! < > + &''
security_group_id	No	String	Security group. By default, this parameter is left blank. This parameter is mandatory if vpc_id is configured. A security group is a virtual firewall that provides secure network access control policies for service instances. A security group must contain at least one inbound rule to permit the requests whose protocol is TCP, source address is 0.0.0.0/0, and port number is 8080.
subnet_network_id	No	String	ID of a subnet. By default, this parameter is left blank. This parameter is mandatory if vpc_id is configured. Enter the network ID displayed in the subnet details on the VPC management console. A subnet provides dedicated network resources that are isolated from other networks.
config	Yes	Array of ServiceConfig objects	Model running configurations. If infer_type is batch or edge , you can configure only one model. If infer_type is real-time , you can configure multiple models and assign weights based on service requirements. However, the versions of multiple models must be unique.
additional_properties	No	Map<String, ServiceAdditionalProperties >	Additional service attribute, which facilitates service management

Table 8-23 Schedule

Parameter	Mandatory	Type	Description
duration	Yes	Integer	Value mapping a time unit. For example, if the task stops after two hours, set time_unit to HOURS and duration to 2 .
time_unit	Yes	String	Scheduling time unit. Possible values are DAYS , HOURS , and MINUTES .
type	Yes	String	Scheduling type. Only the value stop is supported.

Table 8-24 ServiceConfig

Parameter	Mandatory	Type	Description
custom_spec	No	CustomSpec object	Custom resource specifications object
envs	No	Map<String,String>	Common parameter. (Optional) Environment variable key-value pair required for running a model. By default, this parameter is left blank.
specification	Yes	String	Common parameter. Resource flavor. You can query the supported service deployment flavors. The current version supports modelarts.vm.cpu.2u , modelarts.vm.gpu.pnt004 (must be requested), modelarts.vm.ai1.snt3 (must be requested), and custom (available only when the service is deployed in a dedicated resource pool). To request a flavor, submit a service ticket and obtain permissions from ModelArts O&M engineers. If this parameter is set to custom , the custom_spec parameter must be specified.

Parameter	Mandatory	Type	Description
weight	No	Integer	This parameter is mandatory for real-time . Weight of traffic allocated to a model. This parameter is mandatory only when infer_type is set to real-time . The sum of all weights must be equal to 100. If multiple model versions are configured with different traffic weights in a real-time service, ModelArts will continuously access the prediction API of the service and forward prediction requests to the model instances of the corresponding versions based on the weights.
deploy_timeout_in_seconds	No	Integer	Timeout interval for deploying a single model instance
model_id	Yes	String	Common parameters Model ID. You can obtain the value by calling the API for querying the AI application list.
src_path	No	String	Mandatory for batch services. OBS path to the input data of a batch job
req_uri	No	String	Mandatory for batch services. Inference API called in a batch task, which is the RESTful API exposed in the model image. You must select an API URL from the config.json file of the model for inference. If a built-in inference image of ModelArts is used, the API is displayed as <code>/</code> .

Parameter	Mandatory	Type	Description
mapping_type	No	String	<p>The batch service type is mandatory. Mapping type of the input data. The value can be file or csv.</p> <ul style="list-style-type: none"> • If file is selected, each inference request corresponds to a file in the input data directory. When this mode is used, req_uri corresponding to the model can have only one input parameter and the parameter type is file. • If csv is selected, each inference request corresponds to a row of data in the CSV file. If this mode is used, the file name extension in the input data directory must be .csv, and the mapping_rule parameter must be configured to indicate the CSV index corresponding to each parameter in the inference request body.
cluster_id	No	String	<p>Optional for real-time services. ID of a dedicated resource pool. This parameter is left blank by default, indicating that no dedicated resource pool is used. When using a dedicated resource pool to deploy services, ensure that the resource pool is running properly. After this parameter is configured, the network configuration of the cluster is used, and the vpc_id parameter does not take effect.</p>

Parameter	Mandatory	Type	Description
pool_name	No	String	Specifies the ID of the new dedicated resource pool. By default, this parameter is left blank, indicating that the dedicated resource pool is not used. This parameter corresponds to the ID of the new resource pool. When using dedicated resource pool to deploy services, ensure that the cluster status is normal. If pool_name in real-time config and pool_name in real-time config are configured at the same time, pool_name in real-time config is preferred.
nodes	No	Array of strings	Mandatory for edge services. Edge node ID array. The node ID is the edge node ID on IEF, which can be obtained after the edge node is created on IEF.
mapping_rule	No	Object	Optional for batch services. Mapping between input parameters and CSV data. This parameter is mandatory only when mapping_type is set to csv . The mapping rule is similar to the definition of the input parameters in the config.json file. You only need to configure the index parameters under each parameter of the string, number, integer, or boolean type, and specify the value of this parameter to the values of the index parameters in the CSV file to send an inference request. Use commas (,) to separate multiple pieces of CSV data. The values of the index parameters start from 0. If the value of the index parameter is -1, ignore this parameter. For details, see the sample of creating a batch service.

Parameter	Mandatory	Type	Description
src_type	No	String	Mandatory for batch services. Data source type, which can be ManifestFile . By default, this parameter is left blank, indicating that only files in the src_path directory are read. If this parameter is set to ManifestFile , src_path must be set to a specific manifest path. Multiple data paths can be specified in the manifest file. For details, see the manifest inference specifications.
dest_path	No	String	Mandatory for batch services. OBS path to the output data of a batch job
instance_count	Yes	Integer	Common parameter. Number of instances deployed in a model. The maximum number of instances is 128. To use more instances, submit a service ticket.
additional_properties	No	Map<String,ModelAdditionalProperties>	Additional attributes for model deployment, facilitating service instance management

Table 8-25 CustomSpec

Parameter	Mandatory	Type	Description
gpu_p4	No	Float	Number of GPUs, which can be a decimal. The value cannot be smaller than 0, with the third decimal place is rounded off. This parameter is optional and is not used by default.
memory	Yes	Integer	Memory in MB, which must be an integer
cpu	Yes	Float	Number of CPU cores, which can be a decimal. The value cannot be smaller than 0.01, with the third decimal place is rounded off.

Parameter	Mandatory	Type	Description
ascend_a310	No	Integer	Number of Ascend chips. This parameter is optional and is not used by default. Either this parameter or gpu is configured.

Table 8-26 ModelAdditionalProperties

Parameter	Mandatory	Type	Description
log_volume	No	Array of log_volume objects	Host directory mounting. This parameter takes effect only if a dedicated resource pool is used. If a public resource pool is used to deploy services, this parameter cannot be configured. Otherwise, an error will occur.
max_surge	No	Float	The value must be greater than 0. If this parameter is not set, the default value 1 is used. If the value is less than 1, it indicates the percentage of instances to be added during the rolling upgrade. If the value is greater than 1, it indicates the maximum number of instances to be added during the rolling upgrade.
max_unavailable	No	Float	The value must be greater than 0. If this parameter is not set, the default value 0 is used. If the value is less than 1, it indicates the percentage of instances that can be scaled in during the rolling upgrade. If the value is greater than 1, it indicates the number of instances that can be scaled in during the rolling upgrade.
termination_grace_period_seconds	No	Integer	Graceful stop period of a container.

Parameter	Mandatory	Type	Description
persistent_volumes	No	Array of persistent_volumes objects	Persistent storage mounting.

Table 8-27 log_volume

Parameter	Mandatory	Type	Description
host_path	Yes	String	Log path to be mapped on the host
mount_path	Yes	String	Path to the logs in the container

Table 8-28 persistent_volumes

Parameter	Mandatory	Type	Description
name	No	String	Volume name.
mount_path	Yes	String	Mount path of a volume in the container.

Table 8-29 ServiceAdditionalProperties

Parameter	Mandatory	Type	Description
smn_notification	Yes	Map<String, SMNNotification >	SMN message notification structure, which is used to notify the user of the service status change
log_report_channels	No	Array of LogReportPipeline objects	Log channel group. If this parameter is not specified or the array length is 0, LTS log interconnection is disabled. This function cannot be modified after being enabled.

Parameter	Mandatory	Type	Description
websocket_upgrade	No	Boolean	<p>Whether the service interface is upgraded to WebSocket. During service deployment, the default value is false. During service configuration update, the default value is the value set last time.</p> <ul style="list-style-type: none"> • false: Do not upgrade to WebSocket. • true: Upgrade to WebSocket. This parameter cannot be modified after WebSocket is enabled. WebSocket cannot be enabled together with Traffic Limit.

Table 8-30 SmnNotification

Parameter	Mandatory	Type	Description
topic_urn	Yes	String	URN of an SMN topic
events	Yes	Array of integers	<p>Event ID. The options are as follows:</p> <ul style="list-style-type: none"> • 1: failed • 3: running • 7: concerning • 11: pending

Table 8-31 LogReportPipeline

Parameter	Mandatory	Type	Description
type	Yes	String	Log pipeline type. Currently, only LTS is supported.
configuration	No	LtsConfiguration object	LTS log configuration.

Table 8-32 LtsConfiguration

Parameter	Mandatory	Type	Description
log_group_id	Yes	String	LTS log group ID. The value contains 64 characters.
log_stream_id	Yes	String	LTS log stream ID. The value contains 64 characters.

Response Parameters

Status code: 200

Table 8-33 Response body parameters

Parameter	Type	Description
service_id	String	Service ID
resource_ids	Array of strings	Resource ID array for the resource IDs generated by the target model

Example Requests

- Sample request of creating a real-time service

POST https://{endpoint}/v1/{project_id}/services

```
{
  "infer_type": "real-time",
  "service_name": "mnist",
  "description": "mnist service",
  "config": [ {
    "specification": "modelarts.vm.cpu.2u",
    "weight": 100,
    "model_id": "0e07b41b-173e-42db-8c16-8e1b44cc0d44",
    "instance_count": 1
  } ]
}
```

- Create a real-time service and configure multi-version traffic distribution.

POST https://{endpoint}/v1/{project_id}/services

```
{
  "service_name": "mnist",
  "description": "mnist service",
  "infer_type": "real-time",
  "config": [ {
    "model_id": "xxxmodel-idxxx",
    "weight": "70",
    "specification": "modelarts.vm.cpu.2u",
    "instance_count": 1,
    "envs": {
      "model_name": "mxnet-model-1",
      "load_epoch": "0"
    }
  }, {
    "model_id": "xxxxxx",
    "weight": "30",
  } ]
}
```

```
"specification" : "modelarts.vm.cpu.2u",
"instance_count" : 1
}]
}
```

- Create a real-time service in a dedicated resource pool with custom specifications.

POST https://{endpoint}/v1/{project_id}/services

```
{
"service_name" : "realtime-demo",
"description" : "",
"infer_type" : "real-time",
"cluster_id" : "8abf68a969c3cb3a0169c4acb24b0000",
"config" : [ {
"model_id" : "eb6a4a8c-5713-4a27-b8ed-c7e694499af5",
"weight" : "100",
"cluster_id" : "8abf68a969c3cb3a0169c4acb24b0000",
"specification" : "custom",
"custom_spec" : {
"cpu" : 1.5,
"memory" : 7500
},
"instance_count" : 1
}
]
```

- Create a real-time service and configure it to automatically stop.

POST https://{endpoint}/v1/{project_id}/services

```
{
"service_name" : "service-demo",
"description" : "demo",
"infer_type" : "real-time",
"config" : [ {
"model_id" : "xxxmodel-idxxx",
"weight" : "100",
"specification" : "modelarts.vm.cpu.2u",
"instance_count" : 1
}],
"schedule" : [ {
"type" : "stop",
"time_unit" : "HOURS",
"duration" : 1
}
]
```

- Create a batch service and set **mapping_type** to **file**.

POST https://{endpoint}/v1/{project_id}/services

```
{
"service_name" : "batchservicetest",
"description" : "",
"infer_type" : "batch",
"cluster_id" : "8abf68a969c3cb3a0169c4acb24b****",
"config" : [ {
"model_id" : "598b913a-af3e-41ba-a1b5-bf065320f1e2",
"specification" : "modelarts.vm.cpu.2u",
"instance_count" : 1,
"src_path" : "https://infern-data.obs.xxxx.com/xgboosterdata/",
"dest_path" : "https://infern-data.obs.xxxx.com/output/",
"req_uri" : "/",
"mapping_type" : "file"
}
]
```

- Create a batch service and set **mapping_type** to **csv**.

POST https://{endpoint}/v1/{project_id}/services


```
{
  "service_name": "batchservicetest",
  "description": "",
  "infer_type": "batch",
  "config": [ {
    "model_id": "598b913a-af3e-41ba-a1b5-bf065320f1e2",
    "specification": "modelarts.vm.cpu.2u",
    "instance_count": 1,
    "src_path": "https://infern-data.obs.xxxx.com/xgboosterdata/",
    "dest_path": "https://infern-data.obs.xxxx.com/output/",
    "req_uri": "/",
    "mapping_type": "csv",
    "mapping_rule": {
      "type": "Object",
      "properties": {
        "data": {
          "type": "object",
          "properties": {
            "req_data": {
              "type": "array",
              "items": [ {
                "type": "object",
                "properties": {
                  "input5": {
                    "type": "number",
                    "index": 0
                  },
                  "input4": {
                    "type": "number",
                    "index": 1
                  },
                  "input3": {
                    "type": "number",
                    "index": 2
                  },
                  "input2": {
                    "type": "number",
                    "index": 3
                  },
                  "input1": {
                    "type": "number",
                    "index": 4
                  }
                }
              }
            ]
          }
        }
      }
    }
  ]
}
```

- Create an edge service.

POST https://{endpoint}/v1/{project_id}/services

```
{
  "service_name": "service-edge-demo",
  "description": "",
  "infer_type": "edge",
  "config": [ {
    "model_id": "eb6a4a8c-5713-4a27-b8ed-c7e694499af5",
    "specification": "custom",
    "instance_count": 1,
    "custom_spec": {
      "cpu": 1.5,
      "memory": 7500
    },
    "envs": { },
    "nodes": [ "2r8c4fb9-t497-40u3-89yf-skui77db0472" ]
  }
]
```

```
}]
}
```

Example Responses

Status code: 200

Service deployed

```
{
  "service_id" : "10eb0091-887f-4839-9929-abc884f1e20e",
  "resource_ids" : [ "INF-f878991839647358@1598319442708" ]
}
```

Status Codes

Status Code	Description
200	Service deployed

Error Codes

See [Error Codes](#).

8.5 Obtaining Supported Service Deployment Specifications

Function

This API is used to obtain supported service deployment specifications.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/services/specifications

Table 8-34 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 8-35 Query Parameters

Parameter	Mandatory	Type	Description
is_personal_cluster	No	Boolean	Whether to obtain the service deployment flavors supported by dedicated resource pool. The default value is false .
infer_type	No	String	Inference type. Enums: <ul style="list-style-type: none"> • real-time, which is the default value • batch • edge
limit	No	String	Maximum number of records returned on each page. The default value is 1000 .
offset	No	String	Start offset of the returned data. The default value is 0 .

Request Parameters

Table 8-36 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API that is used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 8-37 Response body parameters

Parameter	Type	Description
total_count	Integer	Total number of deployed service specifications.
count	Integer	Number of specifications in the current list.

Parameter	Type	Description
specifications	Array of Specification objects	Supported service deployment flavors

Table 8-38 Specification

Parameter	Type	Description
is_open	Boolean	Whether to enable the flavor. The default value is true . If this parameter is set to false , submit a service ticket to apply for the flavor.
spec_status	String	Specification status. The options are as follows: <ul style="list-style-type: none"> • normal: The specification is normal. • sellout: The specification cannot be used to deploy services because it is sold out.
specification	String	Unique flavor ID
billing_spec	String	Unique ID of the billing specifications
category	String	The flavor type.
cpu_info	CpuInfo object	Specifies the CPU information of the flavor.
memory_info	MemoryInfo object	Specifies the memory information of the flavor.
gpu_info	GpuInfo object	Specifies the GPU information of the flavor.
npu_info	NpuInfo object	NPU information of the flavor.
source_type	String	Model type, which can be empty or auto . The default value is empty , indicating that the model is generated by the user. If the value is auto , the model is trained using ExeML. The billing mode varies depending on the model type.
is_free	Boolean	Whether the flavor is free of charge. The value true indicates that the flavor is free of charge.
over_quota	Boolean	Whether the quota exceeds the upper limit. The value true indicates that the quota exceeds the upper limit.
extend_parameters	Integer	Billing item

Parameter	Type	Description
display_en	String	Specifications description in English
display_cn	String	Specification description

Table 8-39 CpuInfo

Parameter	Type	Description
arch	String	Architecture type.
cpu	Number	Number of CPUs

Table 8-40 MemoryInfo

Parameter	Type	Description
unit	String	Unit.
memory	Integer	Memory size.

Table 8-41 GpuInfo

Parameter	Type	Description
brand	String	Brand.
version	String	Card type.
unit	String	Unit.
memory	Integer	Memory size of the card.
gpu	Number	Number of GPUs.

Table 8-42 NpuInfo

Parameter	Type	Description
brand	String	Brand.
version	String	Card type.
unit	String	Unit.
memory	Integer	Memory size of the card.
npu	Integer	Number of NPUs.

Example Requests

GET https://{endpoint}/v1/{project_id}/services/specifications

Example Responses

Status code: 200

Service deployment flavors.

```
{
  "total_count": 3,
  "count": 3,
  "specifications": [ {
    "specification": "modelarts.vm.cpu.2u",
    "billing_spec": "modelarts.vm.cpu.2u",
    "category": "CPU",
    "cpu_info": {
      "arch": "x86",
      "cpu": 2.0
    },
    "memory_info": {
      "unit": "GB",
      "memory": 8
    },
    "gpu_info": {
      "unit": "MB",
      "gpu": 0.0,
      "memory": 0
    },
    "npu_info": {
      "unit": "MB",
      "npu": 0,
      "memory": 0
    },
    "display_en": "CPU: 2 vCPUs | 8 GiB",
    "display_cn": "CPU: 2 Core 8 GiB",
    "is_open": true,
    "spec_status": "normal",
    "is_free": false,
    "over_quota": false,
    "extend_params": 1
  }, {
    "specification": "modelarts.vm.gpu.pnt004",
    "billing_spec": "modelarts.vm.gpu.pnt004",
    "category": "GPU",
    "cpu_info": {
      "arch": "x86",
      "cpu": 8.0
    },
    "memory_info": {
      "unit": "GB",
      "memory": 32
    },
    "gpu_info": {
      "unit": "GB",
      "brand": "NVIDIA",
      "version": "Pnt004",
      "gpu": 1.0,
      "memory": 16
    },
    "npu_info": {
      "unit": "MB",
      "npu": 0,
      "memory": 0
    },
    "display_en": "CPU: 8 vCPUs | 32 GiB GPU: Pnt004",
    "display_cn": "CPU: 8 cores 32 GiB GPU: 1 x Pnt004",
    "is_open": true,
  }
}
```

```

"spec_status" : "normal",
"is_free" : false,
"over_quota" : false,
"extend_params" : 1
}, {
"specification" : "modelarts.vm.ai1.snt3",
"billing_spec" : "modelarts.vm.ai1.snt3",
"category" : "NPU",
"cpu_info" : {
"arch" : "x86",
"cpu" : 2.0
},
"memory_info" : {
"unit" : "GB",
"memory" : 8
},
"gpu_info" : {
"unit" : "MB",
"gpu" : 0.0,
"memory" : 0
},
"npu_info" : {
"unit" : "GB",
"brand" : "Ascend",
"version" : "Snt3",
"npu" : 1,
"memory" : 8
},
"display_en" : "CPU: 2 vCPUs | 8 GiB Ascend: 1 x Ascend snt3",
"display_cn" : "CPU: 2 cores 8 GiB Ascend: 1 x Ascend snt3",
"is_open" : false,
"spec_status" : "normal",
"is_free" : false,
"over_quota" : false,
"extend_params" : 1
}
}

```

Status Codes

Status Code	Description
200	Service deployment flavors.

Error Codes

See [Error Codes](#).

8.6 Obtaining Service Details

Function

This API is used to obtain the details about a model service based on the service ID.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/services/{service_id}

Table 8-43 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
service_id	Yes	String	Service ID

Request Parameters

Table 8-44 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API that is used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 8-45 Response body parameters

Parameter	Type	Description
service_id	String	Service ID
service_name	String	Service name
description	String	Service description
tenant	String	Tenant to which a service belongs
project	String	Project to which a service belongs
owner	String	User to which a service belongs

Parameter	Type	Description
publish_at	Number	Latest service release time, in milliseconds calculated from 1970.1.1 0:0:0 UTC.
infer_type	String	Inference mode. Options: <ul style="list-style-type: none"> ● real-time ● batch ● edge
workspace_id	String	Workspace ID
cluster_id	String	ID of the dedicated resource pool used by the real-time or batch service. This parameter is available only when a dedicated resource pool is used.
vpc_id	String	ID of the VPC to which the real-time service instance belongs. This parameter is available when the network configuration is customized.
subnet_network_id	String	ID of the subnet to which the real-time service instance belongs. This parameter is available when the network configuration is customized.
security_group_id	String	Security group to which the real-time service instance belongs. This parameter is available when the network configuration is customized.
status	String	Service status. The options are as follows: <ul style="list-style-type: none"> ● running: The service is running properly. ● deploying: The service is being deployed, including image creation and resource scheduling deployment. ● concerning: An alarm has been generated, indicating that some backend instances malfunction. ● failed: Deploying the service failed. For details about the failure cause, see the event and log tab pages. ● stopped: The service has been stopped. ● finished: Service running is completed. This status is available only for batch services. ● stopping: The service is being stopped. ● deleting: The service is being deleted. ● pending: The service is pending. This status is available only for real-time services. ● waiting: The resource is being queued. This status is available only for real-time services.

Parameter	Type	Description
progress	Integer	Deployment progress. This parameter is available when the status is deploying .
error_msg	String	Error message. When status is failed , an error message carrying the failure cause is returned.
config	Array of QueryService Config objects	Service configuration (If a service is shared, only model_id , model_name , and model_version are returned.)
access_addresses	String	Access address of an inference request. This parameter is available when infer_type is set to real-time .
bind_access_address	String	Request address of a custom domain name. This parameter is available after a domain name is bound.
invocation_times	Number	Total number of service calls
failed_times	Number	Number of failed service calls
is_shared	Boolean	Whether a service is subscribed
shared_count	Number	Number of subscribed services
schedule	Array of Schedule objects	Service scheduling configuration. If this parameter is not configured, no value will be returned.
update_time	Number	Time when the configuration used by the current service is updated, in milliseconds calculated from 1970.1.1 0:0:0 UTC.
debug_url	String	Online debugging address of a real-time service. This parameter is available only when the model supports online debugging and there is only one instance.
due_time	Number	Time when an online service automatically stops, in milliseconds calculated from 1970.1.1 0:0:0 UTC. If automatic stop is not configured, this parameter is not returned.
operation_time	Number	Operation time of a request
transition_at	Number	Time when the service status changes
is_free	Boolean	Whether a free-of-charge flavor is used
additional_properties	Map<String,String>	Additional service attribute

Parameter	Type	Description
pool_name	String	Specifies the ID of the new dedicated resource pool. By default, this parameter is left blank, indicating that the dedicated resource pool is not used. This parameter corresponds to the ID of the new resource pool.

Table 8-46 QueryServiceConfig

Parameter	Type	Description
model_version	String	Model version
finished_time	Number	Task completion time, in milliseconds calculated from 1970.1.1 0:0:0 UTC. This parameter is not returned before the task is complete.
custom_spec	CustomSpec object	Custom resource specifications
envs	Map<String,String>	Environment variable key-value pair required for running a model
specification	String	Resource flavor, which can be modelarts.vm.cpu.2u/ modelarts.vm.gpu.pnt004/ modelarts.vm.ai1.snt3/custom.
weight	Integer	Traffic weight allocated to a model
source_type	String	Model source. This parameter is returned when a model is created using ExeML. The value is auto .
model_id	String	Model ID
src_path	String	OBS path to the input data of a batch job
req_uri	String	Inference path of a batch job
mapping_type	String	Mapping type of the input data, which can be file or csv
start_time	Number	Task start time, in milliseconds calculated from 1970.1.1 0:0:0 UTC. This parameter is not returned before the task starts.
cluster_id	String	ID of a dedicated resource pool used by a service instance. This parameter is returned only when a dedicated resource pool is configured.

Parameter	Type	Description
nodes	Array of Nodes objects	Node information
mapping_rule	Object	Mapping between input parameters and CSV data. This parameter is mandatory only when mapping_type is set to csv .
model_name	String	Model name
src_type	String	Data source type. This parameter is returned only when ManifestFile is used.
dest_path	String	OBS path to the output data of a batch job
instance_count	Integer	Number of instances deployed for a model
status	String	Service status. Options: <ul style="list-style-type: none"> ● running: The service is running properly. ● deploying: The service is being deployed, including image creation and resource scheduling deployment. ● concerning: An alarm has been generated, indicating that some backend instances malfunction. ● failed: Deploying the service failed. For details about the failure cause, see the event and log tab pages. ● stopped: The service has been stopped. ● finished: Service running is completed. This status is available only for batch services.
scaling	Boolean	Whether auto scaling is enabled
support_debug	Boolean	Whether a model supports online debugging
additional_properties	Map<String,String>	Additional model deployment attribute
pool_name	String	Specifies the ID of the new dedicated resource pool. By default, this parameter is left blank, indicating that the dedicated resource pool is not used. This parameter corresponds to the ID of the new resource pool.

Table 8-47 CustomSpec

Parameter	Type	Description
gpu_p4	Float	Number of GPUs, which can be a decimal. The value cannot be smaller than 0, with the third decimal place is rounded off. This parameter is optional and is not used by default.
memory	Integer	Memory in MB, which must be an integer
cpu	Float	Number of CPU cores, which can be a decimal. The value cannot be smaller than 0.01, with the third decimal place is rounded off.
ascend_a310	Integer	Number of Ascend chips. This parameter is optional and is not used by default. Either this parameter or gpu is configured.

Table 8-48 Nodes

Parameter	Type	Description
memory	Integer	Memory size, in MB
os_version	String	OS version of a node
cpu	Integer	Number of CPU cores
created_at	String	Creation time, in the format of YYYY-MM-DDTh:mm:ss (UTC)
description	String	Description
message	String	Cause message if instance_status is failed or notReady .
predict_url	String	Inference URL of a node
enable_gpu	Boolean	Whether to enable GPUs
gpu_num	Integer	Number of GPUs
host_ips	Array of strings	Host IP address of a node
updated_at	String	Update time, in the format of YYYY-MM-DDTh:mm:ss (UTC)
node_label	String	Node label
os_type	String	OS type of a node
name	String	Name of an edge node
os_name	String	OS name of a node

Parameter	Type	Description
arch	String	Node architecture
id	String	Edge node ID
instance_statuses	String	Status of a model instance on a node, which can be running , stopped , notReady , or failed
state	String	Host status, which can be RUNNING , FAIL , or UNCONNECTED
deployment_number	Integer	Number of application instances deployed on a node
host_name	String	Host name of a node

Table 8-49 Schedule

Parameter	Type	Description
duration	Integer	Value mapping a time unit. For example, if the task stops after two hours, set time_unit to HOURS and duration to 2 .
time_unit	String	Scheduling time unit. Possible values are DAYS , HOURS , and MINUTES .
type	String	Scheduling type. Only the value stop is supported.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/services/{service_id}
```

Example Responses

Status code: 200

Service Details

```
{
  "service_id": "f76f20ba-78f5-44e8-893a-37c8c600c02f",
  "service_name": "service-demo",
  "tenant": "xxxx",
  "project": "xxxx",
  "owner": "xxxx",
  "publish_at": 1585809231902,
  "update_time": 1585809358259,
  "infer_type": "real-time",
  "status": "running",
  "progress": 100,
  "access_address": "https://xxxx.apigw.xxxx.com/v1/infers/088458d9-5755-4110-97d8-1d21065ea10b/f76f20ba-78f5-44e8-893a-37c8c600c02f",
  "cluster_id": "088458d9-5755-4110-97d8-1d21065ea10b",
  "workspace_id": "0",
  "additional_properties": { }
}
```

```

"is_shared" : false,
"invocation_times" : 0,
"failed_times" : 0,
"shared_count" : 0,
"operation_time" : 1586249085447,
"config" : [ {
  "model_id" : "044ebf3d-8bf4-48df-bf40-bad0e664c1e2",
  "model_name" : "jar-model",
  "model_version" : "1.0.1",
  "specification" : "custom",
  "custom_spec" : { },
  "status" : "notReady",
  "weight" : 100,
  "instance_count" : 1,
  "scaling" : false,
  "envs" : { },
  "additional_properties" : { },
  "support_debug" : false
} ],
"transition_at" : 1585809231902,
"is_free" : false
}

```

Status Codes

Status Code	Description
200	Service Details

Error Codes

See [Error Codes](#).

8.7 Updating Service Configurations

Function

This API is used to update configurations of a model service. It can also be used to start or stop a service.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v1/{project_id}/services/{service_id}

Table 8-50 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
service_id	Yes	String	Service ID

Request Parameters

Table 8-51 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API that is used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Table 8-52 Request body parameters

Parameter	Mandatory	Type	Description
schedule	No	Array of Schedule objects	Service scheduling configuration, which can be configured only for real-time services. By default, this parameter is not used. Services run for a long time.
description	No	String	Service description, which contains a maximum of 100 characters and cannot contain the following characters: <code><>=&"'</code> . If this parameter is not set, no update is performed.
config	No	Array of ServiceConfig objects	Service configuration. If this parameter is not configured, the service is not updated.

Parameter	Mandatory	Type	Description
status	No	String	Service status, which can be running or stopped . If this parameter is not configured, the service status is not changed. Either status or config can be modified. If both of them are used, modify status only.
additional_properties	No	Map<String,ServiceAdditionalProperties>	Additional service attribute, which facilitates service management

Table 8-53 Schedule

Parameter	Mandatory	Type	Description
duration	Yes	Integer	Value mapping a time unit. For example, if the task stops after two hours, set time_unit to HOURS and duration to 2 .
time_unit	Yes	String	Scheduling time unit. Possible values are DAYS , HOURS , and MINUTES .
type	Yes	String	Scheduling type. Only the value stop is supported.

Table 8-54 ServiceConfig

Parameter	Mandatory	Type	Description
custom_spec	No	CustomSpec object	Custom resource specifications
envs	No	Map<String,String>	Common parameter. (Optional) Environment variable key-value pair required for running a model. By default, this parameter is left blank.

Parameter	Mandatory	Type	Description
specification	Yes	String	Common parameter. Resource flavor. You can query the supported service deployment flavors. The current version supports modelarts.vm.cpu.2u , modelarts.vm.gpu.pnt004 (must be requested), modelarts.vm.ai1.snt3 (must be requested), and custom (available only when the service is deployed in a dedicated resource pool). To request a flavor, submit a service ticket and obtain permissions from ModelArts O&M engineers. If this parameter is set to custom , the custom_spec parameter must be specified.
weight	No	Integer	This parameter is mandatory for real-time . Weight of traffic allocated to a model. This parameter is mandatory only when infer_type is set to real-time . The sum of all weights must be equal to 100. If multiple model versions are configured with different traffic weights in a real-time service, ModelArts will continuously access the prediction API of the service and forward prediction requests to the model instances of the corresponding versions based on the weights.
deploy_timeout_in_seconds	No	Integer	Timeout interval for deploying a single model instance
model_id	Yes	String	Common parameters Model ID. You can obtain the value by calling the API for querying the AI application list.
src_path	No	String	Mandatory for batch services. OBS path to the input data of a batch job

Parameter	Mandatory	Type	Description
req_uri	No	String	Mandatory for batch services. Inference API called in a batch task, which is the RESTful API exposed in the model image. You must select an API URL from the config.json file of the model for inference. If a built-in inference image of ModelArts is used, the API is displayed as <code>/</code> .
mapping_type	No	String	<p>The batch service type is mandatory. Mapping type of the input data. The value can be file or csv.</p> <ul style="list-style-type: none"> • If file is selected, each inference request corresponds to a file in the input data directory. When this mode is used, req_uri corresponding to the model can have only one input parameter and the parameter type is file. • If csv is selected, each inference request corresponds to a row of data in the CSV file. If this mode is used, the file name extension in the input data directory must be .csv, and the mapping_rule parameter must be configured to indicate the CSV index corresponding to each parameter in the inference request body.

Parameter	Mandatory	Type	Description
cluster_id	No	String	Optional for real-time services. ID of a dedicated resource pool. This parameter is left blank by default, indicating that no dedicated resource pool is used. When using a dedicated resource pool to deploy services, ensure that the resource pool is running properly. After this parameter is configured, the network configuration of the cluster is used, and the vpc_id parameter does not take effect.
pool_name	No	String	Specifies the ID of the new dedicated resource pool. By default, this parameter is left blank, indicating that the dedicated resource pool is not used. This parameter corresponds to the ID of the new resource pool. When using dedicated resource pool to deploy services, ensure that the cluster status is normal. If pool_name in real-time config and pool_name in real-time config are configured at the same time, pool_name in real-time config is preferred.
nodes	No	Array of strings	Mandatory for edge services. Edge node ID array. The node ID is the edge node ID on IEF, which can be obtained after the edge node is created on IEF.

Parameter	Mandatory	Type	Description
mapping_rule	No	Object	Optional for batch services. Mapping between input parameters and CSV data. This parameter is mandatory only when mapping_type is set to csv . The mapping rule is similar to the definition of the input parameters in the config.json file. You only need to configure the index parameters under each parameter of the string, number, integer, or boolean type, and specify the value of this parameter to the values of the index parameters in the CSV file to send an inference request. Use commas (,) to separate multiple pieces of CSV data. The values of the index parameters start from 0 . If the value of the index parameter is -1 , ignore this parameter. For details, see the sample of creating a batch service.
src_type	No	String	Mandatory for batch services. Data source type, which can be ManifestFile . By default, this parameter is left blank, indicating that only files in the src_path directory are read. If this parameter is set to ManifestFile , src_path must be set to a specific manifest path. Multiple data paths can be specified in the manifest file. For details, see the manifest inference specifications.
dest_path	No	String	Mandatory for batch services. OBS path to the output data of a batch job

Parameter	Mandatory	Type	Description
instance_count	Yes	Integer	Common parameter. Number of instances deployed in a model. The maximum number of instances is 128. To use more instances, submit a service ticket.
additional_properties	No	Map<String,ModelAdditionalProperties>	Additional attributes for model deployment, facilitating service instance management

Table 8-55 CustomSpec

Parameter	Mandatory	Type	Description
gpu_p4	No	Float	Number of GPUs, which can be a decimal. The value cannot be smaller than 0, with the third decimal place is rounded off. This parameter is optional and is not used by default.
memory	Yes	Integer	Memory in MB, which must be an integer
cpu	Yes	Float	Number of CPU cores, which can be a decimal. The value cannot be smaller than 0.01, with the third decimal place is rounded off.
ascend_a310	No	Integer	Number of Ascend chips. This parameter is optional and is not used by default. Either this parameter or gpu is configured.

Table 8-56 ModelAdditionalProperties

Parameter	Mandatory	Type	Description
log_volume	No	Array of log_volume objects	Host directory mounting. This parameter takes effect only if a dedicated resource pool is used. If a public resource pool is used to deploy services, this parameter cannot be configured. Otherwise, an error will occur.
max_surge	No	Float	The value must be greater than 0. If this parameter is not set, the default value 1 is used. If the value is less than 1, it indicates the percentage of instances to be added during the rolling upgrade. If the value is greater than 1, it indicates the maximum number of instances to be added during the rolling upgrade.
max_unavailable	No	Float	The value must be greater than 0. If this parameter is not set, the default value 0 is used. If the value is less than 1, it indicates the percentage of instances that can be scaled in during the rolling upgrade. If the value is greater than 1, it indicates the number of instances that can be scaled in during the rolling upgrade.
termination_grace_period_seconds	No	Integer	Graceful stop period of a container.
persistent_volumes	No	Array of persistent_volumes objects	Persistent storage mounting.

Table 8-57 log_volume

Parameter	Mandatory	Type	Description
host_path	Yes	String	Log path to be mapped on the host

Parameter	Mandatory	Type	Description
mount_path	Yes	String	Path to the logs in the container

Table 8-58 persistent_volumes

Parameter	Mandatory	Type	Description
name	No	String	Volume name.
mount_path	Yes	String	Mount path of a volume in the container.

Table 8-59 ServiceAdditionalProperties

Parameter	Mandatory	Type	Description
smn_notification	Yes	Map<String, SMNNotification >	SMN message notification structure, which is used to notify the user of the service status change
log_report_channels	No	Array of LogReportPipeline objects	Log channel group. If this parameter is not specified or the array length is 0, LTS log interconnection is disabled. This function cannot be modified after being enabled.
websocket_upgrade	No	Boolean	Whether the service interface is upgraded to WebSocket. During service deployment, the default value is false . During service configuration update, the default value is the value set last time. <ul style="list-style-type: none"> false: Do not upgrade to WebSocket. true: Upgrade to WebSocket. This parameter cannot be modified after WebSocket is enabled. WebSocket cannot be enabled together with Traffic Limit.

Table 8-60 SmnNotification

Parameter	Mandatory	Type	Description
topic_urn	Yes	String	URN of an SMN topic
events	Yes	Array of integers	Event ID. The options are as follows: <ul style="list-style-type: none"> • 1: failed • 3: running • 7: concerning • 11: pending

Table 8-61 LogReportPipeline

Parameter	Mandatory	Type	Description
type	Yes	String	Log pipeline type. Currently, only LTS is supported.
configuration	No	LtsConfigurat ion object	LTS log configuration.

Table 8-62 LtsConfiguration

Parameter	Mandatory	Type	Description
log_group_id	Yes	String	LTS log group ID. The value contains 64 characters.
log_stream_id	Yes	String	LTS log stream ID. The value contains 64 characters.

Response Parameters

None

Example Requests

The following shows how to update a real-time service.

```
PUT https://{endpoint}/v1/{project_id}/services/{service_id}
{
  "description": "",
  "status": "running",
  "config": [ {
    "model_id": "xxx",
    "weight": "100",
    "specification": "modelarts.vm.cpu.2u",
    "instance_count": 1
  }
]
```

```
    }]  
  }
```

Example Responses

Status code: 200

The service is updated.

```
{}
```

Status Codes

Status Code	Description
200	The service is updated.

Error Codes

See [Error Codes](#).

8.8 Deleting a Service

Function

This API is used to delete a model service. You can delete your own services only.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v1/{project_id}/services/{service_id}

Table 8-63 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
service_id	Yes	String	Service ID. To delete multiple services in a batch, use commas (,) to separate multiple service_id values.

Request Parameters

Table 8-64 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API that is used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Response Parameters

None

Example Requests

The following shows how to delete the model service with ID **xxxxxx**.

```
DELETE https://endpoint/v1/{project_id}/services/xxxxxx
```

Example Responses

Status code: 200

The service is deleted.

```
{}
```

Status Codes

Status Code	Description
200	The service is deleted.

Error Codes

See [Error Codes](#).

8.9 Updating a Single Property of a Model Service

Function

This API is used to update a single property of a model service. Currently, only **instance_count** (number of instances of the model service) is supported. This operation can be performed only for real-time services in the running, alarm, or abnormal state.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v1/{project_id}/services/{service_id}/property

Table 8-65 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
service_id	Yes	String	Service ID.

Request Parameters

Table 8-66 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 8-67 Request body parameters

Parameter	Mandatory	Type	Description
changed_property	Yes	String	Property name. Currently, only instance_count (number of instances of the model service) is supported.
configs	No	Array of UpdateServiceConfig objects	Service configurations.

Table 8-68 UpdateServiceConfig

Parameter	Mandatory	Type	Description
changed_value	Yes	String	Property value. The value must be an integer. If changed_property is set to instance_count , this parameter value must be greater than or less than the number of current instances.
model_id	Yes	String	Model ID.

Response Parameters

Status code: 200

Table 8-69 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Tracing ID.

Table 8-70 Response body parameters

Parameter	Type	Description
update_time	String	Update time. This parameter is returned only when the service configuration upgrade is triggered. For example, if the config parameter is modified, the update result can be filtered from the service update records based on this time. This parameter is not returned when the description is modified or the service is started or stopped.
resource_ids	String	Updated resource IDs.

Status code: 401

Table 8-71 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Tracing ID.

Table 8-72 Response body parameters

Parameter	Type	Description
error_code	String	Internal service error code.
error_msg	String	Error message.

Example Requests

Update a single property of a model service.

```
PUT https://{endpoint}/v1/{project_id}/services/{service_id}/property
{
  "changed_property": "instance_count",
  "configs": [ {
    "model_id": "98240f41-6c69-437c-b894-9c488b1d9c43",
    "changed_value": 2
  } ]
}
```

Example Responses

Status code: 200

OK

```
{
  "update_time": 1712026426703
}
```

Status code: 401

Unauthorized

```
{
  "error_code": "ModelArts.0203",
  "error_msg": "Invalid token."
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized

Error Codes

See [Error Codes](#).

8.10 Obtaining Service Event Logs

Function

This API is used to obtain service event logs, including service operation records, key actions during deployment, and deployment failure causes.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/services/{service_id}/events

Table 8-73 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
service_id	Yes	String	Service ID

Table 8-74 Query Parameters

Parameter	Mandatory	Type	Description
event_type	No	String	Event type. Enums: <ul style="list-style-type: none"> normal: normal events abnormal: abnormal events
start_time	No	Number	Start time for filtering events. By default, events are not filtered.
end_time	No	Number	End time for filtering events. By default, events are not filtered.
offset	No	Integer	Start page for pagination display. The default value is 0 .
limit	No	Integer	Maximum number of records returned on each page. Default value: 1000

Parameter	Mandatory	Type	Description
sort_by	No	String	Specifies the sorting field. The default value is occur_time (event generation time).
order	No	String	Sorting order. Enums: <ul style="list-style-type: none"> • asc: ascending order • desc: descending order (default value)

Request Parameters

Table 8-75 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API that is used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 8-76 Response body parameters

Parameter	Type	Description
service_name	String	Service name
total_count	Integer	Total number of events that meet the search criteria when no paging is performed
service_id	String	Service ID
count	Integer	Number of events in the query result
events	Array of Events objects	Event logs of a service

Table 8-77 Events

Parameter	Type	Description
event_type	String	Event type. Options: <ul style="list-style-type: none"> ● normal: normal events ● abnormal: abnormal events
event_info	String	Event information, which mainly describes the the five phases of the deployment process. More information can be supplemented later. The five phases are image building, environment preparation, resource scheduling, image pulling, and model startup.
occur_time	Number	Time when an event occurs, in milliseconds calculated from 1970.1.1 0:0:0 UTC.

Example Requests

GET https://{endpoint}/v1/{project_id}/services/{service_id}/events

Example Responses

Status code: 200

Event logs of a service

```
{
  "service_name": "service-07085",
  "total_count": 9,
  "service_id": "35de3ca9-1bca-4ae7-9cb0-914f30fa7d3e",
  "count": 9,
  "events": [ {
    "event_type": "normal",
    "event_info": "start to deploy service",
    "occur_time": 1562597251764
  }, {
    "event_type": "normal",
    "event_info": "building image for model [TF 3.0.0]",
    "occur_time": 1562597251788
  }, {
    "event_type": "normal",
    "event_info": "model (TF 3.0.0) build image success",
    "occur_time": 1562597251805
  }, {
    "event_type": "normal",
    "event_info": "preparing environment",
    "occur_time": 1562597255744
  }, {
    "event_type": "normal",
    "event_info": "[TF 3.0.0] prepare environment success",
    "occur_time": 1562597275915
  }, {
    "event_type": "normal",
    "event_info": "[TF 3.0.0] schedule resource success",
    "occur_time": 1562597275921
  }, {
    "event_type": "normal",
    "event_info": "[TF 3.0.0] pulling model image",
    "occur_time": 1562597275928
  }
]
```

```

}, {
  "event_type": "normal",
  "event_info": "[TF 3.0.0] pull image success",
  "occur_time": 1562597332570
}, {
  "event_type": "normal",
  "event_info": "[TF 3.0.0] starting model",
  "occur_time": 1562597332582
}]
}

```

Status Codes

Status Code	Description
200	Event logs of a service

Error Codes

See [Error Codes](#).

8.11 Obtaining Service Update Logs

Function

This API is used to obtain the update logs of a real-time service.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/services/{service_id}/logs

Table 8-78 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
service_id	Yes	String	Service ID

Table 8-79 Query Parameters

Parameter	Mandatory	Type	Description
update_time	No	Number	Update time for filtering. This parameter can be used to obtain the update logs of a real-time service. By default, update logs are not filtered.

Request Parameters

Table 8-80 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API that is used to obtain a user token. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 8-81 Response body parameters

Parameter	Type	Description
service_name	String	Service name
service_id	String	Service ID
logs	Array of Log objects	Service update records

Table 8-82 Log

Parameter	Type	Description
update_time	Number	Update time, in milliseconds calculated from 1970.1.1 0:0:0 UTC.

Parameter	Type	Description
result	String	Update result. Options: <ul style="list-style-type: none"> • SUCCESS • FAIL • RUNNING
config	Array of config objects	Model running configurations
success_num	Number	Number of nodes that are successfully operated. This parameter is returned when infer_type is set to edge .
failed_num	Number	Number of nodes that fail to be operated. This parameter is returned when infer_type is set to edge .
result_detail	Array of UpdateResult objects	Operation result details. This parameter is returned when infer_type is set to edge .
cluster_id	String	ID of a dedicated resource pool
extend_config	Array of strings	Personalized configuration

Table 8-83 config

Parameter	Type	Description
model_id	String	Common parameter. Model ID, which can be obtained by calling the API for obtaining the AI application list.
model_name	String	Model name
model_version	String	Model version
weight	Integer	Weight of traffic allocated to a model. This parameter is mandatory only when infer_type is set to real-time . The sum of all weights must be equal to 100. If multiple model versions are configured with different traffic weights in a real-time service, ModelArts will continuously access the prediction API of the service and forward prediction requests to the model instances of the corresponding versions based on the weights.
specification	String	Resource flavor. This parameter is returned when infer_type is set to real-time or edge .

Parameter	Type	Description
custom_spec	CustomSpec object	Custom resource specifications
envs	Map<String,String>	Environment variable key-value pair required for running a model
cluster_id	String	ID of a dedicated resource pool
instance_count	Integer	Number of instances where a model is deployed. This parameter is returned when infer_type is set to real-time .

Table 8-84 CustomSpec

Parameter	Type	Description
gpu_p4	Float	Number of GPUs, which can be a decimal. The value cannot be smaller than 0, with the third decimal place is rounded off. This parameter is optional and is not used by default.
memory	Integer	Memory in MB, which must be an integer
cpu	Float	Number of CPU cores, which can be a decimal. The value cannot be smaller than 0.01, with the third decimal place is rounded off.
ascend_a310	Integer	Number of Ascend chips. This parameter is optional and is not used by default. Either this parameter or gpu is configured.

Table 8-85 UpdateResult

Parameter	Type	Description
result	Boolean	Operation result. true indicates that the operation is successful, and false indicates that the operation failed.
node_name	String	Name of an edge node
operation	String	Operation. Options: <ul style="list-style-type: none"> • deploy • delete
node_id	String	Edge node ID You can obtain the value after creating an edge node on IEF.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/services/{service_id}/logs
```

Example Responses

Status code: 200

Service update logs

```
{
  "service_name": "mnist",
  "service_id": "195c1f2d-136d-40af-a0f3-db5717d2634a",
  "logs": [ {
    "result": "SUCCESS",
    "update_time": 1574770228888,
    "config": [ {
      "model_version": "0.0.1",
      "specification": "modelarts.vm.cpu.2u",
      "model_name": "minst",
      "weight": 100,
      "model_id": "0e07b41b-173e-42db-8c16-8e1b44cc0d44",
      "instance_count": 1
    } ]
  } ]
}
```

Status Codes

Status Code	Description
200	Service update logs

Error Codes

See [Error Codes](#).

8.12 Adding a Resource Tag

Function

This API is used to add tags to specified real-time services. If a tag to be added has the same key as an existing tag, the tag will overwrite the existing one.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

```
POST /v1/{project_id}/services/{resource_id}/tags/create
```

Table 8-86 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
resource_id	Yes	String	Resource ID (service ID)

Request Parameters

Table 8-87 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	This field is set to application/json;charset=utf8 .
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API that is used for obtaining a user token. The value of X-Subject-Token in the response header is the user token.

Table 8-88 Request body parameters

Parameter	Mandatory	Type	Description
tags	Yes	Array of TmsTag objects	Specifies the TMS tag list.

Table 8-89 TmsTag

Parameter	Mandatory	Type	Description
key	Yes	String	TMS tag key The value contains a maximum of 128 characters, cannot start or end with a space, and cannot start with <i>sys</i> .
value	Yes	String	TMS tag value A maximum of 255 characters

Response Parameters

Status code: 400

Table 8-90 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 401

Table 8-91 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 8-92 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 8-93 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

The following is an example of how to add tags to a specified service. The TMS tags have been configured by setting the keys to **test** and **model_version**, and setting the corresponding values to **service-gpu** and **0.1**.


```
https://{endpoint}/v1/{project_id}/services/a55eba18-1ebf-4e9a-8229-d2d3b593a3dc/tags/create

{
  "tags": [ {
    "key": "test",
    "value": "service-gpu"
  }, {
    "key": "model_version",
    "value": "0.1"
  } ]
}
```

Example Responses

None

Status Codes

Status Code	Description
204	The tag is added.
400	Invalid parameter
401	Authentication failed.
403	Insufficient permissions
404	Resources not found

Error Codes

See [Error Codes](#).

8.13 Deleting Resource Tags

Function

This API is used to delete tags of a real-time service. Tags can be deleted in batches.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v1/{project_id}/services/{resource_id}/tags/delete

Table 8-94 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
resource_id	Yes	String	Resource ID, for example, the ID of a real-time service

Request Parameters

Table 8-95 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	This field is set to application/json;charset=utf8 .
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API that is used for obtaining a user token. The value of X-Subject-Token in the response header is the user token.

Table 8-96 Request body parameters

Parameter	Mandatory	Type	Description
tags	Yes	Array of TmsTagForDelete objects	List of tags to be deleted.

Table 8-97 TmsTagForDelete

Parameter	Mandatory	Type	Description
key	Yes	String	Specifies the key of the TMS tag.
value	No	String	Specifies the TMS tag value. This parameter is optional.

Response Parameters

Status code: 400

Table 8-98 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 401

Table 8-99 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 8-100 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 8-101 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

```
https://{endpoint}/v1/{project_id}/services/a55eba18-1ebf-4e9a-8229-d2d3b593a3dc/tags/delete
```

```
{
  "tags": [ {
    "key": "dev",
```

```
"value": "dev1"
}]
}
```

Example Responses

None

Status Codes

Status Code	Description
204	The tag is deleted.
400	Invalid parameter
401	Authentication failed.
403	Insufficient permissions
404	No resources available.

Error Codes

See [Error Codes](#).

8.14 Obtaining Inference Service Tags

Function

This API is used to obtain inference service tags in the current project. Tags in all workspaces are obtained by default. If you do not have the permission, no tag is returned.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/services/tms/tags

Table 8-102 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 8-103 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token, which can be obtained by calling the IAM API that is used for obtaining a user token. The value of X-Subject-Token in the response header is the user token.
Content-Type	Yes	String	This field is set to application/json;charset=utf8 .

Response Parameters

Status code: 200

Table 8-104 Response body parameters

Parameter	Type	Description
tags	Array of CombineTmsTags objects	Indicates the convergence structure of tags. Tags with the same key are combined.

Table 8-105 CombineTmsTags

Parameter	Type	Description
key	String	Tag key.
values	Array of strings	List of combined tag values with the same key.

Status code: 400

Table 8-106 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 401

Table 8-107 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 403

Table 8-108 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

https://{endpoint}/v1/{project_id}/services/tms/tags

Example Responses

Status code: 200

All service tags of the project are returned.

```
{
  "tags": [ {
    "key": "model_version",
    "values": [ "0.1", "0.2" ]
  }, {
    "key": "conda_version",
    "values": [ "10.2", "11.0" ]
  } ]
}
```

Status Codes

Status Code	Description
200	All service tags of the project are returned.
400	Invalid parameter
401	Authentication failed.
403	Insufficient permissions

Error Codes

See [Error Codes](#).

8.15 Obtaining an Inference VPC Access Channel

Function

This API is used to obtain an inference VPC access channel.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/internal-channel-info

Table 8-109 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 8-110 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token

Response Parameters

Status code: 200

Table 8-111 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Tracing ID

Table 8-112 Response body parameters

Parameter	Type	Description
dns_domain_name	String	Access domain name displayed in the usage guide and used to add private DNS resolution
vpcep_info	Array of InternalChannelDetail objects	VPC access channel information

Table 8-113 InternalChannelDetail

Parameter	Type	Description
vpcep_service_id	String	VPCEP service ID of the VPC access channel
vpcep_service_name	String	VPCEP service name of the VPC access channel
service_port	Integer	Port of the VPC access channel

Status code: 401

Table 8-114 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Tracing ID

Table 8-115 Response body parameters

Parameter	Type	Description
error_code	String	Internal service error code.
error_msg	String	Error message.

Example Requests

Obtain the VPC access channel.

```
/v1/b722xxxxxxxxxxxxxxxxxxxxxxxxeb4674/internal-channel-info
```

Example Responses

Status code: 200

The inference VPC access channel is returned.

```
{
  "dns_domain_name" : "xxx.xxx.com",
  "vpcep_info" : [ {
    "vpcep_service_id" : "2275xxxx-c96f-4xxx-820c-c7xxxxxa7899",
    "vpcep_service_name" : "cn-nxxxx-x.vpcepname.2275xxxx-c96f-4xxx-820c-c7xxxxxa7899",
    "service_port" : 443
  } ]
}
```

Status code: 401

Authentication failed.

```
{
  "error_code" : "ModelArts.0203",
  "error_msg" : "Invalid token."
}
```

Status Codes

Status Code	Description
200	The inference VPC access channel is returned.
401	Authentication failed.

Error Codes

See [Error Codes](#).

9 Resource Management

9.1 Querying OS Configuration Parameters

Function

Obtain the configuration parameters of the ModelArts OS service, such as the network segment and user resource quota.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/os-user-config

Table 9-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

Status code: 200

Table 9-2 Response body parameters

Parameter	Type	Description
networkCidrs	Array of strings	Network configuration item.
networkQuota	Integer	Specifies the number of networks that a user can create.
poolQuota	Integer	Specifies the quota for the number of resource pools that can be created by a user.
poolHighAvailable	Boolean	Specifies whether HA resource pools can be created in the current environment or site.

Status code: 404

Table 9-3 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

GET https://{endpoint}/v1/{project_id}/os-user-config

Example Responses

Status code: 200

OK.

```
{
  "networkCidrs": [ "192.168.0.0/24", "172.16.31.0/16" ],
  "networkQuota": 15,
  "poolQuota": 15,
  "poolHighAvailable": true
}
```

Status Codes

Status Code	Description
200	OK.
404	Not Found.

Error Codes

See [Error Codes](#).

9.2 Querying a Plug-in Template

Function

This interface is used to obtain details about a specified plug-in template.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/plugintemplates/{plugintemplate_name}

Table 9-4 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
plugintemplate_name	Yes	String	Name of a plug-in template. The options are as follows: <ul style="list-style-type: none"> gpu-driver: GPU driver plug-in template information npu-driver: NPU driver plug-in template information

Request Parameters

None

Response Parameters

Status code: 200

Table 9-5 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. The options are as follows: <ul style="list-style-type: none"> v1
kind	String	Resource type. The options are as follows: <ul style="list-style-type: none"> PluginTemplate: plug-in template
metadata	PluginTemplateMetadata object	Specifies the metadata information of the plug-in template.
spec	PluginTemplateSpec object	Specifications of the plug-in template.

Table 9-6 PluginTemplateMetadata

Parameter	Type	Description
name	String	Name of a plug-in template.

Table 9-7 PluginTemplateSpec

Parameter	Type	Description
type	String	Plug-in template type. The options are as follows: <ul style="list-style-type: none"> npuDriver: NPU driver gpuDriver: GPU driver ccePlugin: CCE plug-in helm: Helm template icAgent: ICAgent tool
description	String	Plug-in template description.
versions	Map<String, PluginTemplateVersion >	Description of the plug-in template version.

Table 9-8 PluginTemplateVersion

Parameter	Type	Description
detail	String	Description of a version.

Status code: 404

Table 9-9 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

GET https://{endpoint}/v1/{project_id}/plugintemplates/{plugin_template_name}

Example Responses

Status code: 200

OK.

```
{
  "apiVersion": "v1",
  "kind": "PluginTemplate",
  "metadata": {
    "name": "npu-driver"
  },
  "spec": {
    "type": "npuDriver",
    "description": "npu driver",
    "versions": { }
  }
}
```

Status code: 404

Not Found.

```
{
  "error_code": "ModelArts.50005101",
  "error_msg": "PluginTemplate {name} not found."
}
```

Status Codes

Status Code	Description
200	OK.
404	Not Found.

Error Codes

See [Error Codes](#).

9.3 Obtaining Nodes

Function

This API is used to obtain nodes in a resource pool.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/pools/{pool_name}/nodes

Table 9-10 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
pool_name	Yes	String	Name of a resource pool.

Table 9-11 Query Parameters

Parameter	Mandatory	Type	Description
continue	No	String	Previous query location in pagination query.
limit	No	Integer	Number of records returned for a single pagination query.

Request Parameters

None

Response Parameters

Status code: 200

Table 9-12 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. Options: <ul style="list-style-type: none"> • v2
kind	String	Resource type. Options: <ul style="list-style-type: none"> • NodeList: nodes
metadata	NodeListMetadata object	Metadata of resources.
items	Array of Node objects	Nodes.

Table 9-13 NodeListMetadata

Parameter	Type	Description
continue	String	Next query position during pagination query.
remainingItemCount	Long	Number of remaining resources.

Table 9-14 Node

Parameter	Type	Description
apiVersion	String	API version. Options: <ul style="list-style-type: none"> • v2
kind	String	Resource type. Options: <ul style="list-style-type: none"> • Node: node
metadata	metadata object	Specifies the node metadata information.
spec	NodeSpec object	Expected node information.
status	NodeStatus object	Node status.

Table 9-15 metadata

Parameter	Type	Description
name	String	Node name.

Parameter	Type	Description
creationTimes tamp	String	Creation time.

Table 9-16 NodeSpec

Parameter	Type	Description
flavor	String	Node specifications

Table 9-17 NodeStatus

Parameter	Type	Description
phase	String	Node status. The options are as follows: <ul style="list-style-type: none"> • Available: The node is available. • Creating: The node is being created. • Deleting: The node is being deleted. • Abnormal: The node is not running properly. • Checking: The node is performing a self-check.
az	String	Indicates the AZ where the node is located.
privatelp	String	Node IP address
resources	NodeResource object	Node resource information.
availableResources	NodeResource object	Available resources of a node.

Table 9-18 NodeResource

Parameter	Type	Description
cpu	String	Number of CPU resources.
memory	String	Indicates the amount of memory resources.
nvidia.com/gpu	String	Number of GPU resources on a GPU node.
huawei.com/ascend-snt3	String	Number of NPUs on the Ascend node

Parameter	Type	Description
huawei.com/ascend-snt9	String	Number of NPUs on the Ascend node

Status code: 404

Table 9-19 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

Obtain nodes in a resource pool.

```
GET https://{endpoint}/v2/{project_id}/pools/{pool_name}/nodes
{ }
```

Example Responses

Status code: 200

OK

```
{
  "kind": "NodeList",
  "apiVersion": "v2",
  "metadata": { },
  "items": [ {
    "kind": "Node",
    "apiVersion": "v2",
    "metadata": {
      "name": "os-node-created-zlncn",
      "creationTimestamp": "2022-09-16T05:32:44Z"
    },
    "spec": {
      "flavor": "modelarts.vm.cpu.4ud"
    },
    "status": {
      "phase": "Available",
      "az": "cn-north-7c",
      "privateIp": "192.168.0.1",
      "resources": {
        "cpu": "3920m",
        "memory": "6270Mi"
      },
      "availableResources": {
        "cpu": "2970m",
        "memory": "4558Mi"
      }
    }
  }, {
    "kind": "Node",
    "apiVersion": "v2",
```

```

"metadata" : {
  "name" : "os-node-created-4s522",
  "creationTimestamp" : "2022-09-16T03:20:53Z"
},
"spec" : {
  "flavor" : "modelarts.vm.cpu.4ud"
},
"status" : {
  "phase" : "Available",
  "az" : "cn-north-7c",
  "privateIp" : "192.168.0.2",
  "resources" : {
    "cpu" : "3920m",
    "memory" : "6270Mi"
  },
  "availableResources" : {
    "cpu" : "2970m",
    "memory" : "4558Mi"
  }
}
}, {
  "kind" : "Node",
  "apiVersion" : "v2",
  "metadata" : {
    "name" : "os-node-created-v7hjf",
    "creationTimestamp" : "2022-09-16T09:16:37Z"
  },
  "spec" : {
    "flavor" : "modelarts.vm.cpu.4ud"
  },
  "status" : {
    "phase" : "Available",
    "az" : "cn-north-7c",
    "privateIp" : "192.168.0.3",
    "resources" : {
      "cpu" : "3920m",
      "memory" : "6270Mi"
    },
    "availableResources" : {
      "cpu" : "3720m",
      "memory" : "5670Mi"
    }
  }
}
}
}

```

Status code: 404

Not found.

```

{
  "error_code" : "ModelArts.50015001",
  "error_msg" : "pool not found"
}

```

Status Codes

Status Code	Description
200	OK
404	Not found.

Error Codes

See [Error Codes](#).

9.4 Deleting nodes in batches

Function

This API is used to delete nodes from a specified resource pool in batches. At least one node must be reserved in the resource pool.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/pools/{pool_name}/nodes/batch-delete

Table 9-20 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
pool_name	Yes	String	Resource pool name.

Request Parameters

Table 9-21 Request body parameters

Parameter	Mandatory	Type	Description
deleteNodeNames	Yes	Array of strings	Names of the nodes to be deleted.

Response Parameters

Status code: 404

Table 9-22 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.

Parameter	Type	Description
error_msg	String	Error message.

Example Requests

The following is an example of how to delete nodes in batches.

```
POST /v2/{project_id}/pools/{pool_name}/nodes/batch-delete
```

```
{
  "deleteNodeNames" : [ "os-node-created-mnmc" ]
}
```

Example Responses

Status code: 404

Not Found.

```
{
  "error_code" : "ModelArts.50015001",
  "error_msg" : "pool not found"
}
```

Status Codes

Status Code	Description
200	OK.
404	Not Found.

Error Codes

See [Error Codes](#).

9.5 Querying a Trace List

Function

Query the event list.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

```
GET /v1/{project_id}/events
```

Table 9-23 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 9-24 Query Parameters

Parameter	Mandatory	Type	Description
resource	Yes	String	Indicates the type of the resource to which the event belongs. The value can be pools, indicating a resource pool.
name	Yes	String	Name of the resource to which the event belongs.
limit	No	Integer	Maximum number of records that can be queried on a page. If this parameter is left empty or set to 0, 500 records are returned by default. A maximum of 500 records can be queried on a page.
continue	No	String	Marker of the previous page in pagination query. The value is a UUID string. This parameter is left empty when the first page is queried.
since	No	Integer	Event start timestamp.
until	No	Integer	Event end timestamp.
type	No	String	Event type. The options are as follows: <ul style="list-style-type: none"> • Normal: normal • Warning: abnormal

Request Parameters

None

Response Parameters

Status code: 200

Table 9-25 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. The options are as follows: <ul style="list-style-type: none"> v1
kind	String	Resource type. The options are as follows: <ul style="list-style-type: none"> EventList: event list.
metadata	EventListMeta object	Indicates the metadata of the event list.
items	Array of EventModel objects	Specifies the event list.

Table 9-26 EventListMeta

Parameter	Type	Description
continue	String	Pagination flag.
remainingItemsCount	Integer	Number of remaining pages.

Table 9-27 EventModel

Parameter	Type	Description
apiVersion	String	API version. The options are as follows: <ul style="list-style-type: none"> v1
kind	String	Resource type. The options are as follows: <ul style="list-style-type: none"> Event: event
type	String	Event type. Options: <ul style="list-style-type: none"> Normal: normal Warning: abnormal
firstTimestamp	String	Time when an event occurs for the first time.
lastTimestamp	String	Time when an event occurs for the last time.
count	Integer	Indicates the number of consecutive occurrences of an event.
reason	String	Indicates the cause of the event.

Parameter	Type	Description
message	String	Indicates the event details.

Status code: 400

Table 9-28 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 9-29 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

This interface is used to query the trace list of resource pool pool-6f5da086876d4cd084d36f8bd3346036 by page.

```
/v1/{project_id}/events?
resource=pools&name=pool-6f5da086876d4cd084d36f8bd3346036&limit=5&continue=cde36780-1120-4753
-bf75-0edb9ebd5a9e
{ }
```

Example Responses

Status code: 200

OK.

```
{
  "kind" : "EventList",
  "apiVersion" : "v1",
  "metadata" : {
    "continue" : "52eddc13-cfad-42d3-ae4-92fea5813e7f"
  },
  "items" : [ {
    "kind" : "Event",
    "apiVersion" : "v1",
    "type" : "Warning",
    "firstTimestamp" : "2022-12-30T02:16:19Z",
    "lastTimestamp" : "2022-12-30T02:16:19Z",
```



```
"count" : 1,
"reason" : "PoolResourcesStatusChange",
"message" : "Pool resources status changed, available/abnormal/creating/deleting count from 1/0/0/0 to 0/1/0/0, timestamp: 1672366579."
}, {
"kind" : "Event",
"apiVersion" : "v1",
"type" : "Normal",
"firstTimestamp" : "2023-01-02T09:02:45Z",
"lastTimestamp" : "2023-01-02T09:02:45Z",
"count" : 1,
"reason" : "PoolResourcesStatusChange",
"message" : "Pool resources status changed, available/abnormal/creating/deleting count from 0/1/0/0 to 1/0/0/0, timestamp: 1672650165."
}, {
"kind" : "Event",
"apiVersion" : "v1",
"type" : "Warning",
"firstTimestamp" : "2023-01-16T06:55:35Z",
"lastTimestamp" : "2023-01-16T06:55:35Z",
"count" : 1,
"reason" : "PoolStatusChange",
"message" : "Pool status changed, from Running to Abnormal, details: ."
}, {
"kind" : "Event",
"apiVersion" : "v1",
"type" : "Warning",
"firstTimestamp" : "2023-01-16T06:57:51Z",
"lastTimestamp" : "2023-01-16T06:57:51Z",
"count" : 1,
"reason" : "PoolResourcesStatusChange",
"message" : "Pool resources status changed, available/abnormal/creating/deleting count from 1/0/0/0 to 0/1/0/0, timestamp: 1673852271."
}, {
"kind" : "Event",
"apiVersion" : "v1",
"type" : "Normal",
"firstTimestamp" : "2023-01-29T02:29:04Z",
"lastTimestamp" : "2023-01-29T02:29:04Z",
"count" : 1,
"reason" : "PoolStatusChange",
"message" : "Pool status changed, from Abnormal to Running."
}
}
]
```

Status code: 400

Bad Request.

```
{
"error_code" : "ModelArts.50004000",
"error_msg" : "Bad request."
}
```

Status code: 404

Not Found.

```
{
"error_code" : "ModelArts.50015001",
"error_msg" : "Pool {name} not found."
}
```

Status Codes

Status Code	Description
200	OK.
400	Bad Request.
404	Not Found.

Error Codes

See [Error Codes](#).

9.6 Creating Network Resources

Function

This API is used to create network resources.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v1/{project_id}/networks

Table 9-30 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 9-31 Request body parameters

Parameter	Mandatory	Type	Description
apiVersion	Yes	String	API version. Options: <ul style="list-style-type: none"> v1

Parameter	Mandatory	Type	Description
kind	Yes	String	Resource type. Options: <ul style="list-style-type: none"> • Network
metadata	Yes	NetworkMetadataCreation object	Metadata of network resources.
spec	Yes	NetworkSpec object	Description of network resources.

Table 9-32 NetworkMetadataCreation

Parameter	Mandatory	Type	Description
labels	Yes	NetworkMetadataLabels object	Indicates the label information of a network resource.

Table 9-33 NetworkMetadataLabels

Parameter	Mandatory	Type	Description
os.modelarts/name	Yes	String	Specified network name.
os.modelarts/workspace.id	No	String	Workspace ID The default value is 0, indicating the default workspace.

Table 9-34 NetworkSpec

Parameter	Mandatory	Type	Description
cidr	Yes	String	Network CIDR. Value range: <ul style="list-style-type: none"> • 172.16.0.0/12-172.16.0.0/24 • 192.168.0.0/16-192.168.0.0/24
connection	No	NetworkConnection object	Information about the connection between the current network and other cloud services.

Table 9-35 NetworkConnection

Parameter	Mandatory	Type	Description
peerConnectionList	No	Array of peerConnectionList objects	List of networks that can be connected in peer mode.

Table 9-36 peerConnectionList

Parameter	Mandatory	Type	Description
peerVpcId	Yes	String	Indicates the ID of the peer VPC.
peerSubnetId	Yes	String	ID of the peer subnet.
defaultGateway	Yes	Boolean	Whether the default gateway is enabled.

Response Parameters

Status code: 200

Table 9-37 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. Options: <ul style="list-style-type: none"> • v1
kind	String	Resource type. Options: <ul style="list-style-type: none"> • Network
metadata	NetworkMetadata object	Metadata of network resources.
spec	NetworkSpec object	Description of network resources.
status	NetworkStatus object	Status of network resources.

Table 9-38 NetworkMetadata

Parameter	Type	Description
name	String	Network name automatically generated by the system, which is equivalent to networkId. networkId indicates the unique ID generated by ModelArts based on the network name entered by the user.
creationTimes tamp	String	Timestamp, for example, 2021-11-01T03:49:41Z.
labels	NetworkMetadataLabels object	Labels of network resources.
annotations	NetworkMetadataAnnotations object	Annotations of network resources.

Table 9-39 NetworkMetadataLabels

Parameter	Type	Description
os.modelarts/ name	String	Specified network name.
os.modelarts/ workspace.id	String	Workspace ID The default value is 0, indicating the default workspace.

Table 9-40 NetworkMetadataAnnotations

Parameter	Type	Description
os.modelarts/ description	String	Network resource description, which is used to describe a scenario. The following special characters are not allowed: !<>=&""

Table 9-41 NetworkSpec

Parameter	Type	Description
cidr	String	Network CIDR. Value range: <ul style="list-style-type: none"> 172.16.0.0/12-172.16.0.0/24 192.168.0.0/16-192.168.0.0/24

Parameter	Type	Description
connection	NetworkConnection object	Information about the connection between the current network and other cloud services.

Table 9-42 NetworkConnection

Parameter	Type	Description
peerConnectionList	Array of peerConnectionList objects	List of networks that can be connected in peer mode.

Table 9-43 peerConnectionList

Parameter	Type	Description
peerVpclId	String	Indicates the ID of the peer VPC.
peerSubnetId	String	ID of the peer subnet.
defaultGateway	Boolean	Whether the default gateway is enabled.

Table 9-44 NetworkStatus

Parameter	Type	Description
phase	String	Current network status. Options: <ul style="list-style-type: none"> • Creating: The network is being created. • Active: The network is functional. • Abnormal: The network malfunctions.
connectionStatus	NetworkConnectionStatus object	Indicates the connection status between the network and other cloud services.

Table 9-45 NetworkConnectionStatus

Parameter	Type	Description
peerConnectionStatus	Array of peerConnectionStatus objects	Indicates the status information list of the network in peer mode.

Parameter	Type	Description
sfsTurboStatus	Array of sfsTurboStatus objects	Specifies the list of SFS Turbos that can be connected to the network.

Table 9-46 peerConnectionStatus

Parameter	Type	Description
peerVpcId	String	Indicates the ID of the peer VPC.
peerSubnetId	String	ID of the peer subnet.
defaultGateway	Boolean	Whether the default gateway is enabled.
phase	String	Connection status of the network. The options are as follows: <ul style="list-style-type: none"> Connecting: The network is being connected. Active: The network connection is normal. Abnormal: The network connection is abnormal.

Table 9-47 sfsTurboStatus

Parameter	Type	Description
sfsId	String	Specifies the SFS Turbo ID.
name	String	Specifies the name of the SFS Turbo.
status	String	Specifies the status of the connection to the SFS Turbo. The options are as follows: <ul style="list-style-type: none"> Active: The SFS connection status is normal. Abnormal: The SFS connection status is abnormal.
ipAddr	String	Specifies the address for accessing SFS Turbo.

Status code: 400

Table 9-48 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.

Parameter	Type	Description
error_msg	String	Error message.

Example Requests

The following is an example of how to create a network whose resource type is **Network**, network name is **network-7a03**, and CIDR block is **192.168.128.0/17**.

```
POST {endpoint}/v2/{project_id}/pools
{
  "apiVersion": "v1",
  "kind": "Network",
  "metadata": {
    "labels": {
      "os.modelarts/name": "network-7a03",
      "os.modelarts/workspace.id": "0"
    }
  },
  "spec": {
    "cidr": "192.168.128.0/17"
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "kind": "Network",
  "apiVersion": "v1",
  "metadata": {
    "name": "network-7a03-86c13962597848eeb29c5861153a391f",
    "creationTimestamp": "2022-09-16T09:44:59Z",
    "labels": {
      "os.modelarts/name": "network-7a03",
      "os.modelarts/workspace.id": "0"
    }
  },
  "annotations": { }
},
"spec": {
  "cidr": "192.168.128.0/17",
  "connection": { }
},
"status": {
  "phase": ""
}
}
```

Status code: 400

Bad request.

```
{
  "error_code": "ModelArts.50004000",
  "error_msg": "Bad request."
}
```


Status Codes

Status Code	Description
200	OK
400	Bad request.

Error Codes

See [Error Codes](#).

9.7 Obtaining Network Resources

Function

This API is used to obtain network resources.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/networks

Table 9-49 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 9-50 Query Parameters

Parameter	Mandatory	Type	Description
labelSelector	No	String	Filter by label.
limit	No	Integer	Number of records returned for a single pagination query.
continue	No	String	Previous query location in pagination query.

Request Parameters

None

Response Parameters

Status code: 200

Table 9-51 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. Options: <ul style="list-style-type: none"> • v1
kind	String	Resource type. Options: <ul style="list-style-type: none"> • NetworkList: networks
metadata	metadata object	Metadata of network resources.
items	Array of Network objects	Network resources.

Table 9-52 metadata

Parameter	Type	Description
continue	String	Next query location in pagination query.
remainingItemCount	Integer	Remaining resources.

Table 9-53 Network

Parameter	Type	Description
apiVersion	String	API version. Options: <ul style="list-style-type: none"> • v1
kind	String	Resource type. Options: <ul style="list-style-type: none"> • Network
metadata	NetworkMetadata object	Metadata of network resources.
spec	NetworkSpec object	Description of network resources.

Parameter	Type	Description
status	NetworkStatus object	Status of network resources.

Table 9-54 NetworkMetadata

Parameter	Type	Description
name	String	Network name automatically generated by the system, which is equivalent to networkId. networkId indicates the unique ID generated by ModelArts based on the network name entered by the user.
creationTimestamp	String	Timestamp, for example, 2021-11-01T03:49:41Z.
labels	NetworkMetadataLabels object	Labels of network resources.
annotations	NetworkMetadataAnnotations object	Annotations of network resources.

Table 9-55 NetworkMetadataLabels

Parameter	Type	Description
os.modelarts/name	String	Specified network name.
os.modelarts/workspace.id	String	Workspace ID The default value is 0, indicating the default workspace.

Table 9-56 NetworkMetadataAnnotations

Parameter	Type	Description
os.modelarts/description	String	Network resource description, which is used to describe a scenario. The following special characters are not allowed: !<>=&""

Table 9-57 NetworkSpec

Parameter	Type	Description
cidr	String	Network CIDR. Value range: <ul style="list-style-type: none"> 172.16.0.0/12-172.16.0.0/24 192.168.0.0/16-192.168.0.0/24
connection	NetworkConnection object	Information about the connection between the current network and other cloud services.

Table 9-58 NetworkConnection

Parameter	Type	Description
peerConnectionList	Array of peerConnectionList objects	List of networks that can be connected in peer mode.

Table 9-59 peerConnectionList

Parameter	Type	Description
peerVpId	String	Indicates the ID of the peer VPC.
peerSubnetId	String	ID of the peer subnet.
defaultGateway	Boolean	Whether the default gateway is enabled.

Table 9-60 NetworkStatus

Parameter	Type	Description
phase	String	Current network status. Options: <ul style="list-style-type: none"> Creating: The network is being created. Active: The network is functional. Abnormal: The network malfunctions.
connectionStatus	NetworkConnectionStatus object	Indicates the connection status between the network and other cloud services.

Table 9-61 NetworkConnectionStatus

Parameter	Type	Description
peerConnectionStatus	Array of peerConnectionStatus objects	Indicates the status information list of the network in peer mode.
sfsTurboStatus	Array of sfsTurboStatus objects	Specifies the list of SFS Turbos that can be connected to the network.

Table 9-62 peerConnectionStatus

Parameter	Type	Description
peerVpId	String	Indicates the ID of the peer VPC.
peerSubnetId	String	ID of the peer subnet.
defaultGateway	Boolean	Whether the default gateway is enabled.
phase	String	Connection status of the network. The options are as follows: <ul style="list-style-type: none"> Connecting: The network is being connected. Active: The network connection is normal. Abnormal: The network connection is abnormal.

Table 9-63 sfsTurboStatus

Parameter	Type	Description
sfsId	String	Specifies the SFS Turbo ID.
name	String	Specifies the name of the SFS Turbo.
status	String	Specifies the status of the connection to the SFS Turbo. The options are as follows: <ul style="list-style-type: none"> Active: The SFS connection status is normal. Abnormal: The SFS connection status is abnormal.
ipAddr	String	Specifies the address for accessing SFS Turbo.

Example Requests

Obtain resource pools.

```
GET https://{endpoint}/v2/{project_id}/pools
{ }
```

Example Responses

Status code: 200

OK

```
{
  "kind": "NetworkList",
  "apiVersion": "v1",
  "metadata": { },
  "items": [ {
    "kind": "Network",
    "apiVersion": "v1",
    "metadata": {
      "name": "network-7a03-86c13962597848eeb29c5861153a391f",
      "creationTimestamp": "2022-09-16T09:44:59Z",
      "labels": {
        "os.modelarts/name": "network-7a03",
        "os.modelarts/workspace.id": "0"
      }
    },
    "annotations": { }
  },
  "spec": {
    "cidr": "192.168.128.0/17",
    "connection": { }
  },
  "status": {
    "phase": "Active",
    "connectionStatus": { }
  }
} ] }
```

Status Codes

Status Code	Description
200	OK

Error Codes

See [Error Codes](#).

9.8 Obtaining a Network Resource

Function

This API is used to obtain details about a specified network resource.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/networks/{network_name}

Table 9-64 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
network_name	Yes	String	Automatically generated network name.

Request Parameters

None

Response Parameters

Status code: 200

Table 9-65 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. Options: <ul style="list-style-type: none"> • v1
kind	String	Resource type. Options: <ul style="list-style-type: none"> • Network
metadata	NetworkMetadata object	Metadata of network resources.
spec	NetworkSpec object	Description of network resources.
status	NetworkStatus object	Status of network resources.

Table 9-66 NetworkMetadata

Parameter	Type	Description
name	String	Network name automatically generated by the system, which is equivalent to networkId. networkId indicates the unique ID generated by ModelArts based on the network name entered by the user.
creationTimes tamp	String	Timestamp, for example, 2021-11-01T03:49:41Z.
labels	NetworkMetadataLabels object	Labels of network resources.
annotations	NetworkMetadataAnnotations object	Annotations of network resources.

Table 9-67 NetworkMetadataLabels

Parameter	Type	Description
os.modelarts/ name	String	Specified network name.
os.modelarts/ workspace.id	String	Workspace ID The default value is 0, indicating the default workspace.

Table 9-68 NetworkMetadataAnnotations

Parameter	Type	Description
os.modelarts/ description	String	Network resource description, which is used to describe a scenario. The following special characters are not allowed: !<>=&""

Table 9-69 NetworkSpec

Parameter	Type	Description
cidr	String	Network CIDR. Value range: <ul style="list-style-type: none"> 172.16.0.0/12-172.16.0.0/24 192.168.0.0/16-192.168.0.0/24

Parameter	Type	Description
connection	NetworkConnection object	Information about the connection between the current network and other cloud services.

Table 9-70 NetworkConnection

Parameter	Type	Description
peerConnectionList	Array of peerConnectionList objects	List of networks that can be connected in peer mode.

Table 9-71 peerConnectionList

Parameter	Type	Description
peerVpclid	String	Indicates the ID of the peer VPC.
peerSubnetId	String	ID of the peer subnet.
defaultGateway	Boolean	Whether the default gateway is enabled.

Table 9-72 NetworkStatus

Parameter	Type	Description
phase	String	Current network status. Options: <ul style="list-style-type: none"> ● Creating: The network is being created. ● Active: The network is functional. ● Abnormal: The network malfunctions.
connectionStatus	NetworkConnectionStatus object	Indicates the connection status between the network and other cloud services.

Table 9-73 NetworkConnectionStatus

Parameter	Type	Description
peerConnectionStatus	Array of peerConnectionStatus objects	Indicates the status information list of the network in peer mode.

Parameter	Type	Description
sfsTurboStatus	Array of sfsTurboStatus objects	Specifies the list of SFS Turbos that can be connected to the network.

Table 9-74 peerConnectionStatus

Parameter	Type	Description
peerVpcId	String	Indicates the ID of the peer VPC.
peerSubnetId	String	ID of the peer subnet.
defaultGateway	Boolean	Whether the default gateway is enabled.
phase	String	Connection status of the network. The options are as follows: <ul style="list-style-type: none"> Connecting: The network is being connected. Active: The network connection is normal. Abnormal: The network connection is abnormal.

Table 9-75 sfsTurboStatus

Parameter	Type	Description
sfsId	String	Specifies the SFS Turbo ID.
name	String	Specifies the name of the SFS Turbo.
status	String	Specifies the status of the connection to the SFS Turbo. The options are as follows: <ul style="list-style-type: none"> Active: The SFS connection status is normal. Abnormal: The SFS connection status is abnormal.
ipAddr	String	Specifies the address for accessing SFS Turbo.

Status code: 404

Table 9-76 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.

Parameter	Type	Description
error_msg	String	Error message.

Example Requests

Obtain details about a network.

```
GET https://{endpoint}/v1/{project_id}/networks/{network_name}
{ }
```

Example Responses

Status code: 200

OK

```
{
  "kind": "Network",
  "apiVersion": "v1",
  "metadata": {
    "name": "network-7a03-86c13962597848eeb29c5861153a391f",
    "creationTimestamp": "2022-09-16T09:44:59Z",
    "labels": {
      "os.modelarts/name": "network-7a03",
      "os.modelarts/workspace.id": "0"
    },
    "annotations": { }
  },
  "spec": {
    "cidr": "192.168.128.0/17",
    "connection": { }
  },
  "status": {
    "phase": "Active",
    "connectionStatus": { }
  }
}
```

Status code: 404

Not found.

```
{
  "error_code": "ModelArts.50025001",
  "error_msg": "Network not exist."
}
```

Status Codes

Status Code	Description
200	OK
404	Not found.

Error Codes

See [Error Codes](#).

9.9 Deleting a Network Resource

Function

This API is used to delete a specified network resource.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v1/{project_id}/networks/{network_name}

Table 9-77 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
network_name	Yes	String	Network resource name.

Request Parameters

None

Response Parameters

Status code: 200

Table 9-78 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. Options: <ul style="list-style-type: none"> v1
kind	String	Resource type. Options: <ul style="list-style-type: none"> Network
metadata	NetworkMetadata object	Metadata of network resources.

Parameter	Type	Description
spec	NetworkSpec object	Description of network resources.
status	NetworkStatus object	Status of network resources.

Table 9-79 NetworkMetadata

Parameter	Type	Description
name	String	Network name automatically generated by the system, which is equivalent to networkId. networkId indicates the unique ID generated by ModelArts based on the network name entered by the user.
creationTimestamp	String	Timestamp, for example, 2021-11-01T03:49:41Z.
labels	NetworkMetadataLabels object	Labels of network resources.
annotations	NetworkMetadataAnnotations object	Annotations of network resources.

Table 9-80 NetworkMetadataLabels

Parameter	Type	Description
os.modelarts/name	String	Specified network name.
os.modelarts/workspace.id	String	Workspace ID The default value is 0, indicating the default workspace.

Table 9-81 NetworkMetadataAnnotations

Parameter	Type	Description
os.modelarts/description	String	Network resource description, which is used to describe a scenario. The following special characters are not allowed: !<>=&""

Table 9-82 NetworkSpec

Parameter	Type	Description
cidr	String	Network CIDR. Value range: <ul style="list-style-type: none"> 172.16.0.0/12-172.16.0.0/24 192.168.0.0/16-192.168.0.0/24
connection	NetworkConnection object	Information about the connection between the current network and other cloud services.

Table 9-83 NetworkConnection

Parameter	Type	Description
peerConnectionList	Array of peerConnectionList objects	List of networks that can be connected in peer mode.

Table 9-84 peerConnectionList

Parameter	Type	Description
peerVpId	String	Indicates the ID of the peer VPC.
peerSubnetId	String	ID of the peer subnet.
defaultGateway	Boolean	Whether the default gateway is enabled.

Table 9-85 NetworkStatus

Parameter	Type	Description
phase	String	Current network status. Options: <ul style="list-style-type: none"> Creating: The network is being created. Active: The network is functional. Abnormal: The network malfunctions.
connectionStatus	NetworkConnectionStatus object	Indicates the connection status between the network and other cloud services.

Table 9-86 NetworkConnectionStatus

Parameter	Type	Description
peerConnectionStatus	Array of peerConnectionStatus objects	Indicates the status information list of the network in peer mode.
sfsTurboStatus	Array of sfsTurboStatus objects	Specifies the list of SFS Turbos that can be connected to the network.

Table 9-87 peerConnectionStatus

Parameter	Type	Description
peerVpcId	String	Indicates the ID of the peer VPC.
peerSubnetId	String	ID of the peer subnet.
defaultGateway	Boolean	Whether the default gateway is enabled.
phase	String	Connection status of the network. The options are as follows: <ul style="list-style-type: none"> Connecting: The network is being connected. Active: The network connection is normal. Abnormal: The network connection is abnormal.

Table 9-88 sfsTurboStatus

Parameter	Type	Description
sfsId	String	Specifies the SFS Turbo ID.
name	String	Specifies the name of the SFS Turbo.
status	String	Specifies the status of the connection to the SFS Turbo. The options are as follows: <ul style="list-style-type: none"> Active: The SFS connection status is normal. Abnormal: The SFS connection status is abnormal.
ipAddr	String	Specifies the address for accessing SFS Turbo.

Status code: 404

Table 9-89 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

Delete a network.

```
DELETE https://{endpoint}/v1/{project_id}/networks/{network_name}
{ }
```

Example Responses

Status code: 200

OK

```
{
  "kind": "Network",
  "apiVersion": "v1",
  "metadata": {
    "name": "network-7a03-86c13962597848eeb29c5861153a391f",
    "creationTimestamp": "2022-09-16T09:44:59Z",
    "deletionTimestamp": "2022-09-16T10:06:27Z",
    "labels": {
      "os.modelarts/name": "network-7a03",
      "os.modelarts/workspace.id": "0"
    },
    "annotations": { }
  },
  "spec": {
    "cidr": "192.168.128.0/17",
    "connection": {
      "peerConnectionList": [ {
        "peerVpclid": "03e4f4d7-fc62-409b-9c52-df885525e30b",
        "peerSubnetId": "42aeebc3-f7c7-45aa-b884-e6e9ac2f841d",
        "defaultGateWay": true
      } ]
    }
  },
  "status": {
    "phase": "Active",
    "connectionStatus": {
      "peerConnectionStatus": [ {
        "peerVpclid": "03e4f4d7-fc62-409b-9c52-df885525e30b",
        "peerSubnetId": "42aeebc3-f7c7-45aa-b884-e6e9ac2f841d",
        "defaultGateWay": true,
        "phase": "Active"
      } ]
    }
  }
}
```

Status code: 404

Not found.

```
{
  "error_code": "ModelArts.50025001",
```



```
"error_msg" : "Network not exist."
}
```

Status Codes

Status Code	Description
200	OK
404	Not found.

Error Codes

See [Error Codes](#).

9.10 Updating a Network Resource

Function

This API is used to update a specified network resource.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PATCH /v1/{project_id}/networks/{network_name}

Table 9-90 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
network_name	Yes	String	Network resource name.

Request Parameters

Table 9-91 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Type (format) of the message body. The value is application/merge-patch+json.

Table 9-92 Request body parameters

Parameter	Mandatory	Type	Description
metadata	No	NetworkMetadataUpdate object	Updated network resource metadata.
spec	No	NetworkSpecUpdate object	Updated network resource description.

Table 9-93 NetworkMetadataUpdate

Parameter	Mandatory	Type	Description
annotations	No	NetworkMetadataAnnotations object	Resource annotations.

Table 9-94 NetworkMetadataAnnotations

Parameter	Mandatory	Type	Description
os.modelarts/description	No	String	Network resource description, which is used to describe a scenario. The following special characters are not allowed: ! <>=&""

Table 9-95 NetworkSpecUpdate

Parameter	Mandatory	Type	Description
connection	No	NetworkConnection object	Updated network connection.

Table 9-96 NetworkConnection

Parameter	Mandatory	Type	Description
peerConnectionList	No	Array of peerConnectionList objects	List of networks that can be connected in peer mode.

Table 9-97 peerConnectionList

Parameter	Mandatory	Type	Description
peerVpclid	Yes	String	Indicates the ID of the peer VPC.
peerSubnetId	Yes	String	ID of the peer subnet.
defaultGateway	Yes	Boolean	Whether the default gateway is enabled.

Response Parameters

Status code: 200

Table 9-98 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. Options: <ul style="list-style-type: none"> • v1
kind	String	Resource type. Options: <ul style="list-style-type: none"> • Network
metadata	NetworkMetadata object	Metadata of network resources.
spec	NetworkSpec object	Description of network resources.

Parameter	Type	Description
status	NetworkStatus object	Status of network resources.

Table 9-99 NetworkMetadata

Parameter	Type	Description
name	String	Network name automatically generated by the system, which is equivalent to networkId. networkId indicates the unique ID generated by ModelArts based on the network name entered by the user.
creationTimestamp	String	Timestamp, for example, 2021-11-01T03:49:41Z.
labels	NetworkMetadataLabels object	Labels of network resources.
annotations	NetworkMetadataAnnotations object	Annotations of network resources.

Table 9-100 NetworkMetadataLabels

Parameter	Type	Description
os.modelarts/name	String	Specified network name.
os.modelarts/workspace.id	String	Workspace ID The default value is 0, indicating the default workspace.

Table 9-101 NetworkMetadataAnnotations

Parameter	Type	Description
os.modelarts/description	String	Network resource description, which is used to describe a scenario. The following special characters are not allowed: !<>=&""

Table 9-102 NetworkSpec

Parameter	Type	Description
cidr	String	Network CIDR. Value range: <ul style="list-style-type: none"> 172.16.0.0/12-172.16.0.0/24 192.168.0.0/16-192.168.0.0/24
connection	NetworkConnection object	Information about the connection between the current network and other cloud services.

Table 9-103 NetworkConnection

Parameter	Type	Description
peerConnectionList	Array of peerConnectionList objects	List of networks that can be connected in peer mode.

Table 9-104 peerConnectionList

Parameter	Type	Description
peerVpId	String	Indicates the ID of the peer VPC.
peerSubnetId	String	ID of the peer subnet.
defaultGateway	Boolean	Whether the default gateway is enabled.

Table 9-105 NetworkStatus

Parameter	Type	Description
phase	String	Current network status. Options: <ul style="list-style-type: none"> Creating: The network is being created. Active: The network is functional. Abnormal: The network malfunctions.
connectionStatus	NetworkConnectionStatus object	Indicates the connection status between the network and other cloud services.

Table 9-106 NetworkConnectionStatus

Parameter	Type	Description
peerConnectionStatus	Array of peerConnectionStatus objects	Indicates the status information list of the network in peer mode.
sfsTurboStatus	Array of sfsTurboStatus objects	Specifies the list of SFS Turbos that can be connected to the network.

Table 9-107 peerConnectionStatus

Parameter	Type	Description
peerVpcId	String	Indicates the ID of the peer VPC.
peerSubnetId	String	ID of the peer subnet.
defaultGateway	Boolean	Whether the default gateway is enabled.
phase	String	Connection status of the network. The options are as follows: <ul style="list-style-type: none"> Connecting: The network is being connected. Active: The network connection is normal. Abnormal: The network connection is abnormal.

Table 9-108 sfsTurboStatus

Parameter	Type	Description
sfsId	String	Specifies the SFS Turbo ID.
name	String	Specifies the name of the SFS Turbo.
status	String	Specifies the status of the connection to the SFS Turbo. The options are as follows: <ul style="list-style-type: none"> Active: The SFS connection status is normal. Abnormal: The SFS connection status is abnormal.
ipAddr	String	Specifies the address for accessing SFS Turbo.

Status code: 400

Table 9-109 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 9-110 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

Interconnect with a VPC.

PATCH https://{endpoint}/v1/{project_id}/networks/{network_name}

```
{
  "spec": {
    "connection": {
      "peerConnectionList": [ {
        "peerVpcId": "03e4f4d7-fc62-409b-9c52-df885525e30b",
        "peerSubnetId": "42aeebc3-f7c7-45aa-b884-e6e9ac2f841d",
        "defaultGateWay": true
      } ]
    }
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "kind": "Network",
  "apiVersion": "v1",
  "metadata": {
    "name": "network-7a03-86c13962597848eeb29c5861153a391f",
    "creationTimestamp": "2022-09-16T09:44:59Z",
    "labels": {
      "os.modelarts/name": "network-7a03",
      "os.modelarts/workspace.id": "0"
    },
    "annotations": { }
  },
  "spec": {
    "cidr": "192.168.128.0/17",
    "connection": {
      "peerConnectionList": [ {
        "peerVpcId": "03e4f4d7-fc62-409b-9c52-df885525e30b",
```

```

    "peerSubnetId" : "42aeebc3-f7c7-45aa-b884-e6e9ac2f841d",
    "defaultGateWay" : true
  }]
}
},
"status" : {
  "phase" : "Active",
  "connectionStatus" : {}
}
}

```

Status code: 400

Bad request

```

{
  "error_code" : "ModelArts.50004000",
  "error_msg" : "Bad request."
}

```

Status code: 404

Not found.

```

{
  "error_code" : "ModelArts.50025001",
  "error_msg" : "Network not exist."
}

```

Status Codes

Status Code	Description
200	OK
400	Bad request
404	Not found.

Error Codes

See [Error Codes](#).

9.11 Querying the Real-Time Resource Usage

Function

Query the real-time usage of all resource pools in the current project.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/metrics/runtime/pools

Table 9-111 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

Status code: 200

Table 9-112 Response body parameters

Parameter	Type	Description
apiVersion	String	Resource version. Options: <ul style="list-style-type: none"> os.modelarts.xxxxx/v2
kind	String	Resource type. Options: <ul style="list-style-type: none"> PoolMetricsList
items	Array of MetricsItem objects	Metric list

Table 9-113 MetricsItem

Parameter	Type	Description
table	table object	Resource list.
metadata	ResourceMetricsMetadata object	Indicates the metadata of a resource indicator.

Table 9-114 table

Parameter	Type	Description
allocated	Allocated object	Allocated resources.
capacity	Capacity object	Total resource capacity.

Table 9-115 Allocated

Parameter	Type	Description
value	Value object	Resource amount.
timestamp	String	UTC time, in the format of yyyy-MM-dd'T'HH:mm:ss'Z'.
window	String	Statistical interval. 1s indicates 1 second, 1m indicates 1 minute, and 1h indicates 1 hour.

Table 9-116 Capacity

Parameter	Type	Description
value	Value object	Resource amount.
maxValue	Value object	Maximum number of elastic resources.
timestamp	String	UTC time, in the format of yyyy-MM-dd'T'HH:mm:ss'Z'.
window	String	Statistical interval. 1s indicates 1 second, 1m indicates 1 minute, and 1h indicates 1 hour.

Table 9-117 Value

Parameter	Type	Description
cpu	String	Number of CPUs, that is, number of computing resources.
memory	String	Memory.
tnt004	String	Number of GPUs.

Table 9-118 ResourceMetricsMetadata

Parameter	Type	Description
name	String	Name of a resource indicator.
labels	Object	Specifies the tag information of a resource metric.

Example Requests

```
GET https://{endpoint}/v2/{project_id}/metrics/runtime/pools
```

Example Responses

Status code: 200

OK.

```
{
  "apiVersion": "v2",
  "kind": "PoolMetricsList",
  "items": [ {
    "table": {
      "allocated": {
        "value": {
          "cpu": 5,
          "memory": "15548Mi",
          "tnt004": "1073m"
        },
        "timestamp": "2022-03-30T07:09:10Z",
        "window": "1m"
      },
      "capacity": {
        "value": {
          "cpu": 16,
          "memory": "64Gi",
          "tnt004": 2
        },
        "maxValue": {
          "cpu": 16,
          "memory": "64Gi",
          "tnt004": 2
        },
        "timestamp": "2022-03-30T07:09:10Z",
        "window": "1m"
      }
    },
    "metadata": {
      "name": "hougang-rse-pool"
    }
  } ]
}
```

Status Codes

Status Code	Description
200	OK.

Error Codes

See [Error Codes](#).

9.12 Creating Resource Pools

Function

This API is used to create resource pools.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/pools

Table 9-119 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 9-120 Request header parameters

Parameter	Mandatory	Type	Description
X-ModelArts-User-ID	No	String	Tenant ID. If there is a tenant ID, it will be used for workspace authentication.

Table 9-121 Request body parameters

Parameter	Mandatory	Type	Description
apiVersion	Yes	String	API version. Options: <ul style="list-style-type: none"> v2
kind	Yes	String	Resource type. Options: <ul style="list-style-type: none"> Pool: resource pool
metadata	Yes	PoolMetadataCreation object	Metadata of a resource pool.

Parameter	Mandatory	Type	Description
spec	No	PoolSpecCreation object	Description of a resource pool.

Table 9-122 PoolMetadataCreation

Parameter	Mandatory	Type	Description
labels	Yes	PoolLabelsCreation object	Resource pool labels.
annotations	No	PoolAnnotationsCreation object	Resource pool annotations.

Table 9-123 PoolLabelsCreation

Parameter	Mandatory	Type	Description
os.modelarts/workspace.id	No	String	Workspace ID. The default value is 0.
os.modelarts/name	Yes	String	Name of a pool specified by a user.

Table 9-124 PoolAnnotationsCreation

Parameter	Mandatory	Type	Description
os.modelarts/description	No	String	Description of a resource pool.
os.modelarts/billing.mode	No	String	Charging mode. The options are as follows: <ul style="list-style-type: none"> 0: Pay per use 1: Yearly/Monthly
os.modelarts/period.num	No	String	Duration-based subscription period, for example, 2. This parameter is mandatory when Billing Mode is set to Yearly/Monthly.

Parameter	Mandatory	Type	Description
os.modelarts/ period.type	No	String	Duration-based subscription type. The options are as follows: <ul style="list-style-type: none"> • 2: month • 3: year This parameter is mandatory when Billing Mode is set to Yearly/Monthly.
os.modelarts/ auto.renew	No	String	Whether to enable auto-renewal. The options are as follows: <ul style="list-style-type: none"> • 0: auto-renewal disabled (default value)
os.modelarts/ promotion.info	No	String	Discount information selected by a subscriber in the CBC.
os.modelarts/ service.console.url	No	String	URL of the page that is displayed after the subscription order is paid.
os.modelarts/ order.id	No	String	Specifies the order ID. This parameter is mandatory when a yearly/monthly pool is created or the billing mode is changed.

Table 9-125 PoolSpecCreation

Parameter	Mandatory	Type	Description
type	Yes	String	Resource pool type. The options are as follows: <ul style="list-style-type: none"> • Dedicate: physical resource pool, which uses a separate network and supports network connection, custom drivers, and custom job types.

Parameter	Mandatory	Type	Description
scope	Yes	Array of strings	Job type supported by the resource pool. Select at least one type. You can select all physical resource pools. The options are as follows: <ul style="list-style-type: none"> • Train: training job • Infer: inference job • Notebook: Notebook job
resources	Yes	Array of PoolResource Flavor objects	List of resource specifications in the resource pool, including resource specifications and the number of resources of the corresponding specifications.
network	Yes	network object	Specifies the network parameters of the resource pool. This parameter is mandatory for physical resource pools.
jobFlavors	No	Array of strings	List of job specifications supported by the resource pool. The content is the job specification name.
driver	No	PoolDriver object	Indicates the driver information of the resource pool.

Table 9-126 PoolResourceFlavor

Parameter	Mandatory	Type	Description
flavor	Yes	String	Resource flavor, for example, modelarts.vm.gpu.tnt004 .
count	Yes	Integer	Number of resources of the corresponding specifications.

Table 9-127 network

Parameter	Mandatory	Type	Description
name	Yes	String	Specifies the network name, that is, the value of metadata.name in the network details. When a user interface creates a network by specifying the network name, the system automatically creates a subnet. The user cannot create a subnet. By default, the system is created under the first subnet.

Table 9-128 PoolDriver

Parameter	Mandatory	Type	Description
gpuVersion	No	String	GPU driver version. This parameter is available when GPUs are used in a physical resource pool. For example, the GPU driver version is 440.33 .
npuVersion	No	String	NPU driver version. This parameter is mandatory when the physical resource pool contains ascend specifications, for example, C78.
updateStrategy	No	String	Indicates the driver upgrade policy. The options are as follows: <ul style="list-style-type: none"> force: forcible upgrade. The node driver is upgraded immediately, which may affect the running jobs on the node. idle: secure upgrade. The driver is upgraded when no job is running on the node.

Response Parameters

Status code: 200

Table 9-129 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. The options are as follows: <ul style="list-style-type: none"> v2
kind	String	Resource type. The options are as follows: <ul style="list-style-type: none"> Pool: resource pool
metadata	PoolMetadata object	Specifies the metadata of the resource pool.
spec	PoolSpecModel object	Expected information about a resource pool.
status	PoolStatus object	Status of a resource pool.

Table 9-130 PoolMetadata

Parameter	Type	Description
name	String	Automatically generated resource pool name, which is equivalent to pool ID .
creationTimestamp	String	Timestamp, for example, 2021-11-01T03:49:41Z.
labels	PoolMetaLabels object	Resource pool labels.
annotations	PoolMetaAnnotations object	Resource pool annotations.

Table 9-131 PoolMetaLabels

Parameter	Type	Description
os.modelarts/workspace.id	String	Workspace ID.
os.modelarts/name	String	Specified resource pool name.
os.modelarts/resource.id	String	ID of the primary resource in the resource pool, which is usually provided for CBC.
os.modelarts/tenant.domain.id	String	ID of the tenant corresponding to the resource pool, which records the tenant account where the resource pool is created

Table 9-132 PoolMetaAnnotations

Parameter	Type	Description
os.modelarts/description	String	Description of a resource pool.
os.modelarts/billing.mode	String	Billing mode. The options are as follows: <ul style="list-style-type: none"> 0: Pay per use 1: Yearly/Monthly
os.modelarts/period.num	String	Subscription period on a yearly/monthly basis, for example, 2.
os.modelarts/period.type	String	Yearly/monthly subscription. Options: <ul style="list-style-type: none"> 2: month 3: year 4: hour
os.modelarts/auto.renew	String	Whether to automatically renew the subscription. Options: <ul style="list-style-type: none"> 0: auto-renewal disabled (default value) 1: auto-renewal enabled
os.modelarts/promotion.info	String	Discount selected in CBC.
os.modelarts/service.console.url	String	URL of the page displayed after the subscription order is paid.
os.modelarts/order.id	String	Order ID, which is mandatory when creating a yearly/monthly resource pool or changing its billing mode.
os.modelarts/flavor.resource.ids	String	Specifies the resource ID corresponding to each flavor, which is used for interaction with CBC.
os.modelarts/tms.tags	String	TMS tag specified by the user during creation.

Table 9-133 PoolSpecModel

Parameter	Type	Description
type	String	Resource pool type. The options are as follows: <ul style="list-style-type: none"> Dedicate: physical resource pool, which uses a separate network and supports network connection, custom drivers, and custom job types.

Parameter	Type	Description
scope	Array of strings	Job type supported by the resource pool. Select at least one type. You can select all physical resource pools. The options are as follows: <ul style="list-style-type: none"> • Train: training job • Infer: inference job • Notebook: Notebook job
resources	Array of resources objects	List of resource specifications in the resource pool, including resource specifications and the number of resources of the corresponding specifications.
network	network object	Specifies the network parameters of the resource pool. This parameter is mandatory for physical resource pools.
jobFlavors	Array of strings	List of job specifications supported by the resource pool. The content is the job specification name.
driver	PoolDriver object	Indicates the driver information of the resource pool.
controlMode	Integer	Restriction status of a resource pool. The options are as follows: <ul style="list-style-type: none"> • 0: not restricted • 1: Changing to the yearly/monthly billing is restricted. • 2: Modifying specifications is restricted. • 4: The service is restricted. • 8: frozen • 16: The resource pool is frozen by the public security department (cannot be unsubscribed). In addition, multiple statuses are allowed. For example, a resource pool is in state 9, indicating that it is frozen and changing its billing mode to yearly/monthly is restricted.

Table 9-134 resources

Parameter	Type	Description
flavor	String	Resource flavor, for example, modelarts.vm.gpu.tnt004 .
count	Integer	Number of resources of the corresponding specifications.

Parameter	Type	Description
azs	Array of PoolNodeAz objects	Specifies the AZ list.

Table 9-135 PoolNodeAz

Parameter	Type	Description
az	String	AZ name
count	Integer	Number of nodes for expanding the capacity of a specified AZ.

Table 9-136 network

Parameter	Type	Description
name	String	Specifies the network name. When a user interface creates a network by specifying the network name, the system automatically creates a subnet. Users cannot create a subnet. By default, the system is created under the first subnet.

Table 9-137 PoolDriver

Parameter	Type	Description
gpuVersion	String	GPU driver version. This parameter is available when GPUs are used in a physical resource pool. For example, the GPU driver version is 440.33 .
npuVersion	String	NPU driver version. This parameter is mandatory when the physical resource pool contains ascend specifications, for example, C78.
updateStrategy	String	Indicates the driver upgrade policy. The options are as follows: <ul style="list-style-type: none"> force: forcible upgrade. The node driver is upgraded immediately, which may affect the running jobs on the node. idle: secure upgrade. The driver is upgraded when no job is running on the node.

Table 9-138 PoolStatus

Parameter	Type	Description
phase	String	Resource pool cluster status. The options are as follows: <ul style="list-style-type: none"> ● Creating: It is being created. ● Running: It is running. ● Abnormal: The resource pool malfunctions. ● Deleting: It is being deleted. ● Error: An error occurred in the resource pool.
message	String	Message indicating that the resource pool is in the current state.
resources	resources object	Number of resources in different states in a resource pool.
scope	Array of scope objects	Service status of a resource pool.
driver	driver object	Resource pool driver.
parent	String	Name of the parent node in the resource pool. This parameter is left blank for physical pools.
root	String	Name of the root node in the resource pool. For a physical pool, set this parameter to its own name.

Table 9-139 resources

Parameter	Type	Description
creating	PoolResource FlavorCount object	Number of resources that are being created.
available	PoolResource FlavorCount object	Number of available resources.
abnormal	PoolResource FlavorCount object	Number of unavailable resources.
deleting	PoolResource FlavorCount object	Number of resources that are being deleted.

Table 9-140 PoolResourceFlavorCount

Parameter	Type	Description
flavor	String	Resource flavor name, for example, modelarts.vm.gpu.tnt004 .
count	Integer	Indicates the guaranteed usage of specifications.
maxCount	Integer	Elastic usage of the resource specification. The value of this parameter is the same as that of count in the physical pool.
azs	Array of azs objects	Number of AZs where the resource is located.

Table 9-141 azs

Parameter	Type	Description
az	String	Name of an AZ.
count	Integer	Resources of an AZ.

Table 9-142 scope

Parameter	Type	Description
scopeType	String	Service type. The options are as follows: <ul style="list-style-type: none"> • Train: training task • Infer: inference task • Notebook: Notebook job
state	String	Service status. Options: <ul style="list-style-type: none"> • Enabling: The service is being enabled. • Enabled: The service is enabled. • Disabling: The service is being disabled. • Disabled: The service is disabled.

Table 9-143 driver

Parameter	Type	Description
gpu	PoolDriverStatus object	GPU driver.

Parameter	Type	Description
npu	PoolDriverStatus object	NPU driver.

Table 9-144 PoolDriverStatus

Parameter	Type	Description
version	String	Indicates the current driver version.
state	String	Indicates the current driver status. Options: <ul style="list-style-type: none"> • Creating: The gateway is being created. • Upgrading: The upgrade is in progress. • Running • Abnormal: abnormal

Status code: 400

Table 9-145 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 409

Table 9-146 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

The following is an example of how to create a dedicated resource pool whose resource type is **Pool**, pool name is **pool-001**, pool type is **Dedicate** (physical resource pool), and supported job type is **Train**.

```
POST https://{endpoint}/v2/{project_id}/pools
```

```
{
  "kind": "Pool",
```

```

"apiVersion" : "v2",
"metadata" : {
  "labels" : {
    "os.modelarts/name" : "pool-001",
    "os.modelarts/workspace.id" : "0"
  },
  "annotations" : {
    "os.modelarts/description" : "",
    "os.modelarts/billing.mode" : "0"
  }
},
"spec" : {
  "type" : "Dedicate",
  "scope" : [ "Train" ],
  "network" : {
    "name" : "net-0123-86c13962597848eeb29c5861153a391f"
  },
  "resources" : [ {
    "flavor" : "modelarts.vm.gpu.tnt004",
    "count" : 2
  } ],
  "driver" : {
    "gpuVersion" : "440.31"
  }
}

```

Example Responses

Status code: 400

Bad request

```

{
  "error_code" : "ModelArts.50004000",
  "error_msg" : "Bad request"
}

```

Status code: 409

Already exists

```

{
  "error_code" : "ModelArts.50015000",
  "error_msg" : "Pool already exists."
}

```

Status Codes

Status Code	Description
200	OK
400	Bad request
409	Already exists

Error Codes

See [Error Codes](#).

9.13 Obtaining Resource Pools

Function

This API is used to obtain resource pools.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/pools

Table 9-147 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 9-148 Query Parameters

Parameter	Mandatory	Type	Description
workspaceId	No	String	Workspace ID. The default value is 0.
labelSelector	No	String	Filter by label.

Parameter	Mandatory	Type	Description
status	No	String	Resource pool status. The options are as follows: <ul style="list-style-type: none"> created: indicates the resource pool that is successfully created. failed: The resource pool fails to be created. The records of the resource pool that fails to be created are retained for three days. creating: The resource pool is being created. If this parameter is left blank, valid resource pools are returned, including those being created and those successfully created.

Request Parameters

None

Response Parameters

Status code: 200

Table 9-149 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. Options: <ul style="list-style-type: none"> v2
kind	String	Resource type. Options: <ul style="list-style-type: none"> PoolList: resource pools
items	Array of PoolModel objects	Resource pools.

Table 9-150 PoolModel

Parameter	Type	Description
apiVersion	String	API version. The options are as follows: <ul style="list-style-type: none"> v2

Parameter	Type	Description
kind	String	Resource type. The options are as follows: <ul style="list-style-type: none"> Pool: resource pool
metadata	PoolMetadata object	Specifies the metadata of the resource pool.
spec	PoolSpecModel object	Expected information about a resource pool.
status	PoolStatus object	Status of a resource pool.

Table 9-151 PoolMetadata

Parameter	Type	Description
name	String	Automatically generated resource pool name, which is equivalent to pool ID .
creationTimestamp	String	Timestamp, for example, 2021-11-01T03:49:41Z.
labels	PoolMetaLabels object	Resource pool labels.
annotations	PoolMetaAnnotations object	Resource pool annotations.

Table 9-152 PoolMetaLabels

Parameter	Type	Description
os.modelarts/workspace.id	String	Workspace ID.
os.modelarts/name	String	Specified resource pool name.
os.modelarts/resource.id	String	ID of the primary resource in the resource pool, which is usually provided for CBC.
os.modelarts/tenant.domain.id	String	ID of the tenant corresponding to the resource pool, which records the tenant account where the resource pool is created

Table 9-153 PoolMetaAnnotations

Parameter	Type	Description
os.modelarts/ description	String	Description of a resource pool.
os.modelarts/ billing.mode	String	Billing mode. The options are as follows: <ul style="list-style-type: none"> • 0: Pay per use • 1: Yearly/Monthly
os.modelarts/ period.num	String	Subscription period on a yearly/monthly basis, for example, 2.
os.modelarts/ period.type	String	Yearly/monthly subscription. Options: <ul style="list-style-type: none"> • 2: month • 3: year • 4: hour
os.modelarts/ auto.renew	String	Whether to automatically renew the subscription. Options: <ul style="list-style-type: none"> • 0: auto-renewal disabled (default value) • 1: auto-renewal enabled
os.modelarts/ promotion.info	String	Discount selected in CBC.
os.modelarts/ service.console.url	String	URL of the page displayed after the subscription order is paid.
os.modelarts/ order.id	String	Order ID, which is mandatory when creating a yearly/monthly resource pool or changing its billing mode.
os.modelarts/ flavor.resource.ids	String	Specifies the resource ID corresponding to each flavor, which is used for interaction with CBC.
os.modelarts/ tms.tags	String	TMS tag specified by the user during creation.

Table 9-154 PoolSpecModel

Parameter	Type	Description
type	String	Resource pool type. The options are as follows: <ul style="list-style-type: none"> • Dedicate: physical resource pool, which uses a separate network and supports network connection, custom drivers, and custom job types.

Parameter	Type	Description
scope	Array of strings	Job type supported by the resource pool. Select at least one type. You can select all physical resource pools. The options are as follows: <ul style="list-style-type: none"> • Train: training job • Infer: inference job • Notebook: Notebook job
resources	Array of resources objects	List of resource specifications in the resource pool, including resource specifications and the number of resources of the corresponding specifications.
network	network object	Specifies the network parameters of the resource pool. This parameter is mandatory for physical resource pools.
jobFlavors	Array of strings	List of job specifications supported by the resource pool. The content is the job specification name.
driver	PoolDriver object	Indicates the driver information of the resource pool.
controlMode	Integer	Restriction status of a resource pool. The options are as follows: <ul style="list-style-type: none"> • 0: not restricted • 1: Changing to the yearly/monthly billing is restricted. • 2: Modifying specifications is restricted. • 4: The service is restricted. • 8: frozen • 16: The resource pool is frozen by the public security department (cannot be unsubscribed). In addition, multiple statuses are allowed. For example, a resource pool is in state 9, indicating that it is frozen and changing its billing mode to yearly/monthly is restricted.

Table 9-155 resources

Parameter	Type	Description
flavor	String	Resource flavor, for example, modelarts.vm.gpu.tnt004 .
count	Integer	Number of resources of the corresponding specifications.

Parameter	Type	Description
azs	Array of PoolNodeAz objects	Specifies the AZ list.

Table 9-156 PoolNodeAz

Parameter	Type	Description
az	String	AZ name
count	Integer	Number of nodes for expanding the capacity of a specified AZ.

Table 9-157 network

Parameter	Type	Description
name	String	Specifies the network name. When a user interface creates a network by specifying the network name, the system automatically creates a subnet. Users cannot create a subnet. By default, the system is created under the first subnet.

Table 9-158 PoolDriver

Parameter	Type	Description
gpuVersion	String	GPU driver version. This parameter is available when GPUs are used in a physical resource pool. For example, the GPU driver version is 440.33 .
npuVersion	String	NPU driver version. This parameter is mandatory when the physical resource pool contains ascend specifications, for example, C78.
updateStrategy	String	Indicates the driver upgrade policy. The options are as follows: <ul style="list-style-type: none"> force: forcible upgrade. The node driver is upgraded immediately, which may affect the running jobs on the node. idle: secure upgrade. The driver is upgraded when no job is running on the node.

Table 9-159 PoolStatus

Parameter	Type	Description
phase	String	Resource pool cluster status. The options are as follows: <ul style="list-style-type: none"> ● Creating: It is being created. ● Running: It is running. ● Abnormal: The resource pool malfunctions. ● Deleting: It is being deleted. ● Error: An error occurred in the resource pool.
message	String	Message indicating that the resource pool is in the current state.
resources	resources object	Number of resources in different states in a resource pool.
scope	Array of scope objects	Service status of a resource pool.
driver	driver object	Resource pool driver.
parent	String	Name of the parent node in the resource pool. This parameter is left blank for physical pools.
root	String	Name of the root node in the resource pool. For a physical pool, set this parameter to its own name.

Table 9-160 resources

Parameter	Type	Description
creating	PoolResourceFlavorCount object	Number of resources that are being created.
available	PoolResourceFlavorCount object	Number of available resources.
abnormal	PoolResourceFlavorCount object	Number of unavailable resources.
deleting	PoolResourceFlavorCount object	Number of resources that are being deleted.

Table 9-161 PoolResourceFlavorCount

Parameter	Type	Description
flavor	String	Resource flavor name, for example, modelarts.vm.gpu.tnt004 .
count	Integer	Indicates the guaranteed usage of specifications.
maxCount	Integer	Elastic usage of the resource specification. The value of this parameter is the same as that of count in the physical pool.
azs	Array of azs objects	Number of AZs where the resource is located.

Table 9-162 azs

Parameter	Type	Description
az	String	Name of an AZ.
count	Integer	Resources of an AZ.

Table 9-163 scope

Parameter	Type	Description
scopeType	String	Service type. The options are as follows: <ul style="list-style-type: none"> • Train: training task • Infer: inference task • Notebook: Notebook job
state	String	Service status. Options: <ul style="list-style-type: none"> • Enabling: The service is being enabled. • Enabled: The service is enabled. • Disabling: The service is being disabled. • Disabled: The service is disabled.

Table 9-164 driver

Parameter	Type	Description
gpu	PoolDriverStatus object	GPU driver.

Parameter	Type	Description
npu	PoolDriverStatus object	NPU driver.

Table 9-165 PoolDriverStatus

Parameter	Type	Description
version	String	Indicates the current driver version.
state	String	Indicates the current driver status. Options: <ul style="list-style-type: none"> • Creating: The gateway is being created. • Upgrading: The upgrade is in progress. • Running • Abnormal: abnormal

Example Requests

Obtain resource pools.

```
GET https://{endpoint}/v2/{project_id}/pools
{ }
```

Example Responses

Status code: 200

OK

```
{
  "kind" : "PoolList",
  "apiVersion" : "v2",
  "items" : [ {
    "kind" : "Pool",
    "apiVersion" : "v2",
    "metadata" : {
      "name" : "auto-pool-os-86c13962597848eeb29c5861153a391f",
      "creationTimestamp" : "2022-09-16T03:10:40Z",
      "labels" : {
        "os.modelarts/name" : "auto-pool-os",
        "os.modelarts/workspace.id" : "0",
        "os.modelarts/resource.id" : "maos-auto-pool-os-72w8d"
      },
      "annotations" : {
        "os.modelarts/description" : "",
        "os.modelarts/billing.mode" : "0"
      }
    },
    "spec" : {
      "type" : "Dedicate",
      "scope" : [ "Train", "Infer" ],
      "resources" : [ {
        "flavor" : "modelarts.vm.cpu.4ud",
        "count" : 2
      } ],
    }
  } ],
}
```

```

"network" : {
  "name" : "network-maos-86c13962597848eeb29c5861153a391f"
},
"status" : {
  "phase" : "Running",
  "root" : "auto-pool-os-86c13962597848eeb29c5861153a391f",
  "scope" : [ {
    "scopeType" : "Train",
    "state" : "Enabled"
  }, {
    "scopeType" : "Infer",
    "state" : "Enabled"
  } ],
  "resources" : {
    "available" : [ {
      "flavor" : "modelarts.vm.cpu.4ud",
      "count" : 2,
      "azs" : [ {
        "az" : "cn-north-7c",
        "count" : 2
      } ]
    } ]
  }
}
}
}
}
}

```

Status Codes

Status Code	Description
200	OK

Error Codes

See [Error Codes](#).

9.14 Obtaining a Resource Pool

Function

This API is used to obtain details about a specified resource pool.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/pools/{pool_name}

Table 9-166 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
pool_name	Yes	String	Name of a resource pool.

Request Parameters

Table 9-167 Request header parameters

Parameter	Mandatory	Type	Description
X-ModelArts-User-ID	No	String	Tenant ID. If there is a tenant ID, it will be used for workspace authentication.

Response Parameters

Status code: 200

Table 9-168 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. The options are as follows: <ul style="list-style-type: none"> v2
kind	String	Resource type. The options are as follows: <ul style="list-style-type: none"> Pool: resource pool
metadata	PoolMetadata object	Specifies the metadata of the resource pool.
spec	PoolSpecModel object	Expected information about a resource pool.
status	PoolStatus object	Status of a resource pool.

Table 9-169 PoolMetadata

Parameter	Type	Description
name	String	Automatically generated resource pool name, which is equivalent to pool ID .

Parameter	Type	Description
creationTimestamp	String	Timestamp, for example, 2021-11-01T03:49:41Z.
labels	PoolMetaLabels object	Resource pool labels.
annotations	PoolMetaAnnotations object	Resource pool annotations.

Table 9-170 PoolMetaLabels

Parameter	Type	Description
os.modelarts/workspace.id	String	Workspace ID.
os.modelarts/name	String	Specified resource pool name.
os.modelarts/resource.id	String	ID of the primary resource in the resource pool, which is usually provided for CBC.
os.modelarts/tenant.domain.id	String	ID of the tenant corresponding to the resource pool, which records the tenant account where the resource pool is created

Table 9-171 PoolMetaAnnotations

Parameter	Type	Description
os.modelarts/description	String	Description of a resource pool.
os.modelarts/billing.mode	String	Billing mode. The options are as follows: <ul style="list-style-type: none"> ● 0: Pay per use ● 1: Yearly/Monthly
os.modelarts/period.num	String	Subscription period on a yearly/monthly basis, for example, 2.
os.modelarts/period.type	String	Yearly/monthly subscription. Options: <ul style="list-style-type: none"> ● 2: month ● 3: year ● 4: hour

Parameter	Type	Description
os.modelarts/ auto.renew	String	Whether to automatically renew the subscription. Options: <ul style="list-style-type: none"> ● 0: auto-renewal disabled (default value) ● 1: auto-renewal enabled
os.modelarts/ promotion.info	String	Discount selected in CBC.
os.modelarts/ service.console.url	String	URL of the page displayed after the subscription order is paid.
os.modelarts/ order.id	String	Order ID, which is mandatory when creating a yearly/monthly resource pool or changing its billing mode.
os.modelarts/ flavor.resource.ids	String	Specifies the resource ID corresponding to each flavor, which is used for interaction with CBC.
os.modelarts/ tms.tags	String	TMS tag specified by the user during creation.

Table 9-172 PoolSpecModel

Parameter	Type	Description
type	String	Resource pool type. The options are as follows: <ul style="list-style-type: none"> ● Dedicate: physical resource pool, which uses a separate network and supports network connection, custom drivers, and custom job types.
scope	Array of strings	Job type supported by the resource pool. Select at least one type. You can select all physical resource pools. The options are as follows: <ul style="list-style-type: none"> ● Train: training job ● Infer: inference job ● Notebook: Notebook job
resources	Array of resources objects	List of resource specifications in the resource pool, including resource specifications and the number of resources of the corresponding specifications.
network	network object	Specifies the network parameters of the resource pool. This parameter is mandatory for physical resource pools.

Parameter	Type	Description
jobFlavors	Array of strings	List of job specifications supported by the resource pool. The content is the job specification name.
driver	PoolDriver object	Indicates the driver information of the resource pool.
controlMode	Integer	Restriction status of a resource pool. The options are as follows: <ul style="list-style-type: none"> ● 0: not restricted ● 1: Changing to the yearly/monthly billing is restricted. ● 2: Modifying specifications is restricted. ● 4: The service is restricted. ● 8: frozen ● 16: The resource pool is frozen by the public security department (cannot be unsubscribed). In addition, multiple statuses are allowed. For example, a resource pool is in state 9, indicating that it is frozen and changing its billing mode to yearly/monthly is restricted.

Table 9-173 resources

Parameter	Type	Description
flavor	String	Resource flavor, for example, modelarts.vm.gpu.tnt004 .
count	Integer	Number of resources of the corresponding specifications.
azs	Array of PoolNodeAz objects	Specifies the AZ list.

Table 9-174 PoolNodeAz

Parameter	Type	Description
az	String	AZ name
count	Integer	Number of nodes for expanding the capacity of a specified AZ.

Table 9-175 network

Parameter	Type	Description
name	String	Specifies the network name. When a user interface creates a network by specifying the network name, the system automatically creates a subnet. Users cannot create a subnet. By default, the system is created under the first subnet.

Table 9-176 PoolDriver

Parameter	Type	Description
gpuVersion	String	GPU driver version. This parameter is available when GPUs are used in a physical resource pool. For example, the GPU driver version is 440.33 .
npuVersion	String	NPU driver version. This parameter is mandatory when the physical resource pool contains ascend specifications, for example, C78.
updateStrategy	String	Indicates the driver upgrade policy. The options are as follows: <ul style="list-style-type: none"> ● force: forcible upgrade. The node driver is upgraded immediately, which may affect the running jobs on the node. ● idle: secure upgrade. The driver is upgraded when no job is running on the node.

Table 9-177 PoolStatus

Parameter	Type	Description
phase	String	Resource pool cluster status. The options are as follows: <ul style="list-style-type: none"> ● Creating: It is being created. ● Running: It is running. ● Abnormal: The resource pool malfunctions. ● Deleting: It is being deleted. ● Error: An error occurred in the resource pool.
message	String	Message indicating that the resource pool is in the current state.

Parameter	Type	Description
resources	resources object	Number of resources in different states in a resource pool.
scope	Array of scope objects	Service status of a resource pool.
driver	driver object	Resource pool driver.
parent	String	Name of the parent node in the resource pool. This parameter is left blank for physical pools.
root	String	Name of the root node in the resource pool. For a physical pool, set this parameter to its own name.

Table 9-178 resources

Parameter	Type	Description
creating	PoolResource FlavorCount object	Number of resources that are being created.
available	PoolResource FlavorCount object	Number of available resources.
abnormal	PoolResource FlavorCount object	Number of unavailable resources.
deleting	PoolResource FlavorCount object	Number of resources that are being deleted.

Table 9-179 PoolResourceFlavorCount

Parameter	Type	Description
flavor	String	Resource flavor name, for example, modelarts.vm.gpu.tnt004 .
count	Integer	Indicates the guaranteed usage of specifications.
maxCount	Integer	Elastic usage of the resource specification. The value of this parameter is the same as that of count in the physical pool.

Parameter	Type	Description
azs	Array of azs objects	Number of AZs where the resource is located.

Table 9-180 azs

Parameter	Type	Description
az	String	Name of an AZ.
count	Integer	Resources of an AZ.

Table 9-181 scope

Parameter	Type	Description
scopeType	String	Service type. The options are as follows: <ul style="list-style-type: none"> • Train: training task • Infer: inference task • Notebook: Notebook job
state	String	Service status. Options: <ul style="list-style-type: none"> • Enabling: The service is being enabled. • Enabled: The service is enabled. • Disabling: The service is being disabled. • Disabled: The service is disabled.

Table 9-182 driver

Parameter	Type	Description
gpu	PoolDriverStatus object	GPU driver.
npu	PoolDriverStatus object	NPU driver.

Table 9-183 PoolDriverStatus

Parameter	Type	Description
version	String	Indicates the current driver version.

Parameter	Type	Description
state	String	Indicates the current driver status. Options: <ul style="list-style-type: none"> • Creating: The gateway is being created. • Upgrading: The upgrade is in progress. • Running • Abnormal: abnormal

Status code: 404

Table 9-184 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

Obtain details about a resource pool.

```
GET https://{endpoint}/v2/{project_id}/pools/{pool_name}
{ }
```

Example Responses

Status code: 200

OK

```
{
  "kind": "Pool",
  "apiVersion": "v2",
  "metadata": {
    "name": "auto-pool-os-86c13962597848eeb29c5861153a391f",
    "creationTimestamp": "2022-09-16T03:10:40Z",
    "labels": {
      "os.modelarts/name": "auto-pool-os",
      "os.modelarts/workspace.id": "0",
      "os.modelarts/resource.id": "maos-auto-pool-os-72w8d"
    },
    "annotations": {
      "os.modelarts/description": "",
      "os.modelarts/billing.mode": "0"
    }
  },
  "spec": {
    "type": "Dedicate",
    "scope": [ "Train", "Infer" ],
    "resources": [ {
      "flavor": "modelarts.vm.cpu.4ud",
      "count": 2
    } ],
    "network": {
```

```

    "name": "network-maos-86c13962597848eeb29c5861153a391f"
  },
  "status": {
    "phase": "Running",
    "root": "auto-pool-os-86c13962597848eeb29c5861153a391f",
    "scope": [ {
      "scopeType": "Train",
      "state": "Enabled"
    }, {
      "scopeType": "Infer",
      "state": "Enabled"
    } ],
    "resources": {
      "available": [ {
        "flavor": "modelarts.vm.cpu.4ud",
        "count": 2,
        "azs": [ {
          "az": "cn-north-7c",
          "count": 2
        } ]
      } ]
    }
  }
}

```

Status code: 404

Not found.

```

{
  "error_code": "ModelArts.50015001",
  "error_msg": "pool not found"
}

```

Status Codes

Status Code	Description
200	OK
404	Not found.

Error Codes

See [Error Codes](#).

9.15 Deleting a Resource Pool

Function

This API is used to delete a specified resource pool.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v2/{project_id}/pools/{pool_name}

Table 9-185 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
pool_name	Yes	String	Automatically generated resource pool name.

Request Parameters

Table 9-186 Request header parameters

Parameter	Mandatory	Type	Description
X-ModelArts-User-ID	No	String	Tenant ID. If there is a tenant ID, it will be used for workspace authentication.

Response Parameters

Status code: 200

Table 9-187 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. Options: <ul style="list-style-type: none"> • v2
kind	String	Resource type. Options: <ul style="list-style-type: none"> • Pool: resource pool
metadata	PoolMetadataDeletion object	Metadata of a resource pool.
spec	PoolSpecModel object	Description of a resource pool.
status	PoolStatus object	Status of a resource pool.

Table 9-188 PoolMetadataDeletion

Parameter	Type	Description
name	String	Automatically generated resource pool name, which is equivalent to pool ID .
creationTimes tamp	String	Timestamp, for example, 2021-11-01T03:49:41Z.
deletionTimes tamp	String	Timestamp, for example, 2021-11-01T03:49:41Z.
labels	PoolMetaLabels object	Resource pool labels.
annotations	PoolMetaAnnotations object	Resource pool annotations.

Table 9-189 PoolMetaLabels

Parameter	Type	Description
os.modelarts/ workspace.id	String	Workspace ID.
os.modelarts/ name	String	Specified resource pool name.
os.modelarts/ resource.id	String	ID of the primary resource in the resource pool, which is usually provided for CBC.
os.modelarts/ tenant.domain.id	String	ID of the tenant corresponding to the resource pool, which records the tenant account where the resource pool is created

Table 9-190 PoolMetaAnnotations

Parameter	Type	Description
os.modelarts/ description	String	Description of a resource pool.
os.modelarts/ billing.mode	String	Billing mode. The options are as follows: <ul style="list-style-type: none"> • 0: Pay per use • 1: Yearly/Monthly
os.modelarts/ period.num	String	Subscription period on a yearly/monthly basis, for example, 2.

Parameter	Type	Description
os.modelarts/period.type	String	Yearly/monthly subscription. Options: <ul style="list-style-type: none"> • 2: month • 3: year • 4: hour
os.modelarts/auto.renew	String	Whether to automatically renew the subscription. Options: <ul style="list-style-type: none"> • 0: auto-renewal disabled (default value) • 1: auto-renewal enabled
os.modelarts/promotion.info	String	Discount selected in CBC.
os.modelarts/service.console.url	String	URL of the page displayed after the subscription order is paid.
os.modelarts/order.id	String	Order ID, which is mandatory when creating a yearly/monthly resource pool or changing its billing mode.
os.modelarts/flavor.resource.ids	String	Specifies the resource ID corresponding to each flavor, which is used for interaction with CBC.
os.modelarts/tms.tags	String	TMS tag specified by the user during creation.

Table 9-191 PoolSpecModel

Parameter	Type	Description
type	String	Resource pool type. The options are as follows: <ul style="list-style-type: none"> • Dedicate: physical resource pool, which uses a separate network and supports network connection, custom drivers, and custom job types.
scope	Array of strings	Job type supported by the resource pool. Select at least one type. You can select all physical resource pools. The options are as follows: <ul style="list-style-type: none"> • Train: training job • Infer: inference job • Notebook: Notebook job

Parameter	Type	Description
resources	Array of resources objects	List of resource specifications in the resource pool, including resource specifications and the number of resources of the corresponding specifications.
network	network object	Specifies the network parameters of the resource pool. This parameter is mandatory for physical resource pools.
jobFlavors	Array of strings	List of job specifications supported by the resource pool. The content is the job specification name.
driver	PoolDriver object	Indicates the driver information of the resource pool.
controlMode	Integer	Restriction status of a resource pool. The options are as follows: <ul style="list-style-type: none"> ● 0: not restricted ● 1: Changing to the yearly/monthly billing is restricted. ● 2: Modifying specifications is restricted. ● 4: The service is restricted. ● 8: frozen ● 16: The resource pool is frozen by the public security department (cannot be unsubscribed). In addition, multiple statuses are allowed. For example, a resource pool is in state 9, indicating that it is frozen and changing its billing mode to yearly/monthly is restricted.

Table 9-192 resources

Parameter	Type	Description
flavor	String	Resource flavor, for example, modelarts.vm.gpu.tnt004 .
count	Integer	Number of resources of the corresponding specifications.
azs	Array of PoolNodeAz objects	Specifies the AZ list.

Table 9-193 PoolNodeAz

Parameter	Type	Description
az	String	AZ name
count	Integer	Number of nodes for expanding the capacity of a specified AZ.

Table 9-194 network

Parameter	Type	Description
name	String	Specifies the network name. When a user interface creates a network by specifying the network name, the system automatically creates a subnet. Users cannot create a subnet. By default, the system is created under the first subnet.

Table 9-195 PoolDriver

Parameter	Type	Description
gpuVersion	String	GPU driver version. This parameter is available when GPUs are used in a physical resource pool. For example, the GPU driver version is 440.33 .
npuVersion	String	NPU driver version. This parameter is mandatory when the physical resource pool contains ascend specifications, for example, C78.
updateStrategy	String	Indicates the driver upgrade policy. The options are as follows: <ul style="list-style-type: none"> • force: forcible upgrade. The node driver is upgraded immediately, which may affect the running jobs on the node. • idle: secure upgrade. The driver is upgraded when no job is running on the node.

Table 9-196 PoolStatus

Parameter	Type	Description
phase	String	Resource pool cluster status. The options are as follows: <ul style="list-style-type: none"> ● Creating: It is being created. ● Running: It is running. ● Abnormal: The resource pool malfunctions. ● Deleting: It is being deleted. ● Error: An error occurred in the resource pool.
message	String	Message indicating that the resource pool is in the current state.
resources	resources object	Number of resources in different states in a resource pool.
scope	Array of scope objects	Service status of a resource pool.
driver	driver object	Resource pool driver.
parent	String	Name of the parent node in the resource pool. This parameter is left blank for physical pools.
root	String	Name of the root node in the resource pool. For a physical pool, set this parameter to its own name.

Table 9-197 resources

Parameter	Type	Description
creating	PoolResource FlavorCount object	Number of resources that are being created.
available	PoolResource FlavorCount object	Number of available resources.
abnormal	PoolResource FlavorCount object	Number of unavailable resources.
deleting	PoolResource FlavorCount object	Number of resources that are being deleted.

Table 9-198 PoolResourceFlavorCount

Parameter	Type	Description
flavor	String	Resource flavor name, for example, modelarts.vm.gpu.tnt004 .
count	Integer	Indicates the guaranteed usage of specifications.
maxCount	Integer	Elastic usage of the resource specification. The value of this parameter is the same as that of count in the physical pool.
azs	Array of azs objects	Number of AZs where the resource is located.

Table 9-199 azs

Parameter	Type	Description
az	String	Name of an AZ.
count	Integer	Resources of an AZ.

Table 9-200 scope

Parameter	Type	Description
scopeType	String	Service type. The options are as follows: <ul style="list-style-type: none"> • Train: training task • Infer: inference task • Notebook: Notebook job
state	String	Service status. Options: <ul style="list-style-type: none"> • Enabling: The service is being enabled. • Enabled: The service is enabled. • Disabling: The service is being disabled. • Disabled: The service is disabled.

Table 9-201 driver

Parameter	Type	Description
gpu	PoolDriverStatus object	GPU driver.

Parameter	Type	Description
npu	PoolDriverStatus object	NPU driver.

Table 9-202 PoolDriverStatus

Parameter	Type	Description
version	String	Indicates the current driver version.
state	String	Indicates the current driver status. Options: <ul style="list-style-type: none"> • Creating: The gateway is being created. • Upgrading: The upgrade is in progress. • Running • Abnormal: abnormal

Status code: 404

Table 9-203 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

Delete a resource pool.

```
DELETE https://{endpoint}/v2/{project_id}/pools/{pool_name}
{ }
```

Example Responses

Status code: 200

OK

```
{
  "kind": "Pool",
  "apiVersion": "v2",
  "metadata": {
    "name": "auto-pool-os-86c13962597848eeb29c5861153a391f",
    "creationTimestamp": "2022-09-16T03:10:40Z",
    "labels": {
      "os.modelarts/name": "auto-pool-os",
      "os.modelarts/workspace.id": "0",
      "os.modelarts/resource.id": "maos-auto-pool-os-72w8d"
    }
  }
}
```

```

    },
    "annotations" : {
      "os.modelarts/description" : "",
      "os.modelarts/billing.mode" : "0"
    }
  },
  "spec" : {
    "type" : "Dedicate",
    "scope" : [ "Train", "Infer" ],
    "resources" : [ {
      "flavor" : "modelarts.vm.cpu.4ud",
      "count" : 2
    } ],
    "network" : {
      "name" : "network-maos-86c13962597848eeb29c5861153a391f"
    }
  },
  "status" : {
    "phase" : "Running",
    "root" : "auto-pool-os-86c13962597848eeb29c5861153a391f",
    "scope" : [ {
      "scopeType" : "Train",
      "state" : "Enabled"
    }, {
      "scopeType" : "Infer",
      "state" : "Enabled"
    } ],
    "resources" : {
      "available" : [ {
        "flavor" : "modelarts.vm.cpu.4ud",
        "count" : 2,
        "azs" : [ {
          "az" : "cn-north-7c",
          "count" : 2
        } ]
      } ]
    }
  }
}

```

Status code: 404

Not found.

```

{
  "error_code" : "ModelArts.50015001",
  "error_msg" : "pool not found"
}

```

Status Codes

Status Code	Description
200	OK
404	Not found.

Error Codes

See [Error Codes](#).

9.16 Updating a Resource Pool

Function

This API is used to update a specified resource pool.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PATCH /v2/{project_id}/pools/{pool_name}

Table 9-204 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
pool_name	Yes	String	Automatically generated resource pool name.

Request Parameters

Table 9-205 Request header parameters

Parameter	Mandatory	Type	Description
X-ModelArts-User-ID	No	String	Tenant ID. If there is a tenant ID, it will be used for workspace authentication.
Content-Type	Yes	String	Type (format) of the message body. The value is application/merge-patch+json.

Table 9-206 Request body parameters

Parameter	Mandatory	Type	Description
metadata	No	PoolMetadataUpdate object	Metadata of a resource pool.

Parameter	Mandatory	Type	Description
spec	No	PoolSpecUpdate object	Description of a resource pool.

Table 9-207 PoolMetadataUpdate

Parameter	Mandatory	Type	Description
annotations	No	annotations object	Resource pool annotations.

Table 9-208 annotations

Parameter	Mandatory	Type	Description
os.modelarts/ description	No	String	Description of a resource pool, specifying the application scenarios of the resource pool. The following special characters are not allowed: ! <>=&'"
os.modelarts/ order.id	No	String	Order ID, which is required when you create or modify a yearly/monthly order.

Table 9-209 PoolSpecUpdate

Parameter	Mandatory	Type	Description
scope	No	Array of strings	Update the enabled job type. The options are as follows: <ul style="list-style-type: none"> • Train: training job • Infer: inference job • Notebook: Notebook job
resources	No	Array of resources objects	Updated resource specifications.
jobFlavors	No	Array of strings	Job specifications supported by a resource pool.
driver	No	PoolDriver object	Indicates the resource pool driver information.

Table 9-210 resources

Parameter	Mandatory	Type	Description
flavor	Yes	String	Resource specifications.
count	Yes	Integer	Number of resources for the specified specification.
azs	No	Array of PoolNodeAz objects	Updated AZs.

Table 9-211 PoolNodeAz

Parameter	Mandatory	Type	Description
az	Yes	String	AZ name
count	Yes	Integer	Number of nodes for expanding the capacity of a specified AZ.

Table 9-212 PoolDriver

Parameter	Mandatory	Type	Description
gpuVersion	No	String	GPU driver version. This parameter is available when GPUs are used in a physical resource pool. For example, the GPU driver version is 440.33 .
npuVersion	No	String	NPU driver version. This parameter is mandatory when the physical resource pool contains ascend specifications, for example, C78.
updateStrategy	No	String	Indicates the driver upgrade policy. The options are as follows: <ul style="list-style-type: none"> force: forcible upgrade. The node driver is upgraded immediately, which may affect the running jobs on the node. idle: secure upgrade. The driver is upgraded when no job is running on the node.

Response Parameters

Status code: 200

Table 9-213 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. The options are as follows: <ul style="list-style-type: none"> v2
kind	String	Resource type. The options are as follows: <ul style="list-style-type: none"> Pool: resource pool
metadata	PoolMetadata object	Specifies the metadata of the resource pool.
spec	PoolSpecModel object	Expected information about a resource pool.
status	PoolStatus object	Status of a resource pool.

Table 9-214 PoolMetadata

Parameter	Type	Description
name	String	Automatically generated resource pool name, which is equivalent to pool ID .
creationTimestamp	String	Timestamp, for example, 2021-11-01T03:49:41Z.
labels	PoolMetadataLabels object	Resource pool labels.
annotations	PoolMetadataAnnotations object	Resource pool annotations.

Table 9-215 PoolMetaLabels

Parameter	Type	Description
os.modelarts/workspace.id	String	Workspace ID.
os.modelarts/name	String	Specified resource pool name.

Parameter	Type	Description
os.modelarts/resource.id	String	ID of the primary resource in the resource pool, which is usually provided for CBC.
os.modelarts/tenant.domain.id	String	ID of the tenant corresponding to the resource pool, which records the tenant account where the resource pool is created

Table 9-216 PoolMetaAnnotations

Parameter	Type	Description
os.modelarts/description	String	Description of a resource pool.
os.modelarts/billing.mode	String	Billing mode. The options are as follows: <ul style="list-style-type: none"> 0: Pay per use 1: Yearly/Monthly
os.modelarts/period.num	String	Subscription period on a yearly/monthly basis, for example, 2.
os.modelarts/period.type	String	Yearly/monthly subscription. Options: <ul style="list-style-type: none"> 2: month 3: year 4: hour
os.modelarts/auto.renew	String	Whether to automatically renew the subscription. Options: <ul style="list-style-type: none"> 0: auto-renewal disabled (default value) 1: auto-renewal enabled
os.modelarts/promotion.info	String	Discount selected in CBC.
os.modelarts/service.console.url	String	URL of the page displayed after the subscription order is paid.
os.modelarts/order.id	String	Order ID, which is mandatory when creating a yearly/monthly resource pool or changing its billing mode.
os.modelarts/flavor.resource.ids	String	Specifies the resource ID corresponding to each flavor, which is used for interaction with CBC.
os.modelarts/tms.tags	String	TMS tag specified by the user during creation.

Table 9-217 PoolSpecModel

Parameter	Type	Description
type	String	Resource pool type. The options are as follows: <ul style="list-style-type: none"> ● Dedicate: physical resource pool, which uses a separate network and supports network connection, custom drivers, and custom job types.
scope	Array of strings	Job type supported by the resource pool. Select at least one type. You can select all physical resource pools. The options are as follows: <ul style="list-style-type: none"> ● Train: training job ● Infer: inference job ● Notebook: Notebook job
resources	Array of resources objects	List of resource specifications in the resource pool, including resource specifications and the number of resources of the corresponding specifications.
network	network object	Specifies the network parameters of the resource pool. This parameter is mandatory for physical resource pools.
jobFlavors	Array of strings	List of job specifications supported by the resource pool. The content is the job specification name.
driver	PoolDriver object	Indicates the driver information of the resource pool.
controlMode	Integer	Restriction status of a resource pool. The options are as follows: <ul style="list-style-type: none"> ● 0: not restricted ● 1: Changing to the yearly/monthly billing is restricted. ● 2: Modifying specifications is restricted. ● 4: The service is restricted. ● 8: frozen ● 16: The resource pool is frozen by the public security department (cannot be unsubscribed). In addition, multiple statuses are allowed. For example, a resource pool is in state 9, indicating that it is frozen and changing its billing mode to yearly/monthly is restricted.

Table 9-218 resources

Parameter	Type	Description
flavor	String	Resource flavor, for example, modelarts.vm.gpu.tnt004 .
count	Integer	Number of resources of the corresponding specifications.
azs	Array of PoolNodeAz objects	Specifies the AZ list.

Table 9-219 PoolNodeAz

Parameter	Type	Description
az	String	AZ name
count	Integer	Number of nodes for expanding the capacity of a specified AZ.

Table 9-220 network

Parameter	Type	Description
name	String	Specifies the network name. When a user interface creates a network by specifying the network name, the system automatically creates a subnet. Users cannot create a subnet. By default, the system is created under the first subnet.

Table 9-221 PoolDriver

Parameter	Type	Description
gpuVersion	String	GPU driver version. This parameter is available when GPUs are used in a physical resource pool. For example, the GPU driver version is 440.33 .
npuVersion	String	NPU driver version. This parameter is mandatory when the physical resource pool contains ascend specifications, for example, C78.

Parameter	Type	Description
updateStrategy	String	Indicates the driver upgrade policy. The options are as follows: <ul style="list-style-type: none"> • force: forcible upgrade. The node driver is upgraded immediately, which may affect the running jobs on the node. • idle: secure upgrade. The driver is upgraded when no job is running on the node.

Table 9-222 PoolStatus

Parameter	Type	Description
phase	String	Resource pool cluster status. The options are as follows: <ul style="list-style-type: none"> • Creating: It is being created. • Running: It is running. • Abnormal: The resource pool malfunctions. • Deleting: It is being deleted. • Error: An error occurred in the resource pool.
message	String	Message indicating that the resource pool is in the current state.
resources	resources object	Number of resources in different states in a resource pool.
scope	Array of scope objects	Service status of a resource pool.
driver	driver object	Resource pool driver.
parent	String	Name of the parent node in the resource pool. This parameter is left blank for physical pools.
root	String	Name of the root node in the resource pool. For a physical pool, set this parameter to its own name.

Table 9-223 resources

Parameter	Type	Description
creating	PoolResource FlavorCount object	Number of resources that are being created.

Parameter	Type	Description
available	PoolResourceFlavorCount object	Number of available resources.
abnormal	PoolResourceFlavorCount object	Number of unavailable resources.
deleting	PoolResourceFlavorCount object	Number of resources that are being deleted.

Table 9-224 PoolResourceFlavorCount

Parameter	Type	Description
flavor	String	Resource flavor name, for example, modelarts.vm.gpu.tnt004 .
count	Integer	Indicates the guaranteed usage of specifications.
maxCount	Integer	Elastic usage of the resource specification. The value of this parameter is the same as that of count in the physical pool.
azs	Array of azs objects	Number of AZs where the resource is located.

Table 9-225 azs

Parameter	Type	Description
az	String	Name of an AZ.
count	Integer	Resources of an AZ.

Table 9-226 scope

Parameter	Type	Description
scopeType	String	Service type. The options are as follows: <ul style="list-style-type: none"> ● Train: training task ● Infer: inference task ● Notebook: Notebook job

Parameter	Type	Description
state	String	Service status. Options: <ul style="list-style-type: none"> ● Enabling: The service is being enabled. ● Enabled: The service is enabled. ● Disabling: The service is being disabled. ● Disabled: The service is disabled.

Table 9-227 driver

Parameter	Type	Description
gpu	PoolDriverStatus object	GPU driver.
npv	PoolDriverStatus object	NPU driver.

Table 9-228 PoolDriverStatus

Parameter	Type	Description
version	String	Indicates the current driver version.
state	String	Indicates the current driver status. Options: <ul style="list-style-type: none"> ● Creating: The gateway is being created. ● Upgrading: The upgrade is in progress. ● Running ● Abnormal: abnormal

Status code: 400

Table 9-229 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 9-230 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

Expand the capacity of a resource pool.

```
PATCH https://{endpoint}/v2/{project_id}/pools/{pool_name}
{
  "spec": {
    "resources": [ {
      "flavor": "modelarts.vm.cpu.4ud",
      "count": 3
    } ]
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "kind": "Pool",
  "apiVersion": "v2",
  "metadata": {
    "name": "auto-pool-os-86c13962597848eeb29c5861153a391f",
    "creationTimestamp": "2022-09-16T03:10:40Z",
    "labels": {
      "os.modelarts/name": "auto-pool-os",
      "os.modelarts/workspace.id": "0",
      "os.modelarts/resource.id": "maos-auto-pool-os-72w8d"
    },
    "annotations": {
      "os.modelarts/description": "",
      "os.modelarts/billing.mode": "0"
    }
  },
  "spec": {
    "type": "Dedicate",
    "scope": [ "Train", "Infer" ],
    "resources": [ {
      "flavor": "modelarts.vm.cpu.4ud",
      "count": 3
    } ],
    "network": {
      "name": "network-maos-86c13962597848eeb29c5861153a391f"
    }
  },
  "status": {
    "phase": "Running",
    "root": "auto-pool-os-86c13962597848eeb29c5861153a391f",
    "scope": [ {
      "scopeType": "Train",
      "state": "Enabled"
    } ],
    {
      "scopeType": "Infer",
```

```
"state" : "Enabled"
}],
"resources" : {
  "creating" : [ {
    "flavor" : "modelarts.vm.cpu.4ud",
    "count" : 1,
    "azs" : [ {
      "az" : "cn-north-7c",
      "count" : 1
    } ]
  } ],
  "available" : [ {
    "flavor" : "modelarts.vm.cpu.4ud",
    "count" : 2,
    "azs" : [ {
      "az" : "cn-north-7c",
      "count" : 2
    } ]
  } ]
}
}
```

Status code: 400

Bad request

```
{
  "error_code" : "ModelArts.50004000",
  "error_msg" : "Bad request"
}
```

Status code: 404

Not found.

```
{
  "error_code" : "ModelArts.50015001",
  "error_msg" : "pool not found"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request
404	Not found.

Error Codes

See [Error Codes](#).

9.17 Monitoring a Resource Pool

Function

This API is used to obtain the monitored resource pool information.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/pools/{pool_name}/monitor

Table 9-231 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
pool_name	Yes	String	Automatically generated resource pool name.

Table 9-232 Query Parameters

Parameter	Mandatory	Type	Description
time_range	No	String	<p>Query time range. The default value is -1.-1.60. The format is startTimelnMillis.endTimelnMi llis.durationInMinutes. The parameters are described as follows:</p> <ul style="list-style-type: none"> • startTimelnMillis: query start time, in milliseconds. If this parameter is set to -1, the server calculates the start time based on $(\text{endTimelnMillis} - \text{durationInMinutes} * 60 * 1000)$. • endTimelnMillis: query end time, in milliseconds. If this parameter is set to -1, the server calculates the end time based on $\text{startTimelnMillis} + \text{durationInMinutes} * 60 * 1000$. If the calculated end time is later than the current system time, the current system time is used. • durationInMinutes: time span (in minutes) of the query time. The value must be greater than 0 and greater than or equal to $(\text{endTimelnMillis} - \text{startTimelnMillis}) / (60 * 1000) - 1$. If both the start time and end time are set to -1, the system sets the end time to the current time in milliseconds and calculates the start time based on $(\text{endTimelnMillis} - \text{durationInMinutes} * 60 * 1000)$. Example: -1.-1.60 (indicating the last 60 minutes) Constraint: In a single request, the query duration and period must meet the following condition:

Parameter	Mandatory	Type	Description
			durationInMinutes * 60 / period <= 1440.
statistics	No	String	Statistic. The options are as follows: <ul style="list-style-type: none"> • maximum: maximum value statistics, which is the default value • minimum: minimum value statistics • sum: sum statistics • average: average value statistics • sampleCount: sampling statistics
period	No	String	Monitoring data granularity, in seconds. The options are as follows: <ul style="list-style-type: none"> • 60: The granularity is 1 minute, which is the default value. • 300: The granularity is 5 minutes. • 900: The interval is 15 minutes. • 3600: The interval is 1 hour.

Request Parameters

None

Response Parameters

Status code: 200

Table 9-233 Response body parameters

Parameter	Type	Description
metrics	Array of metrics objects	Specifies the list of metric objects. Value range: The JSON array size cannot exceed 20.

Table 9-234 metrics

Parameter	Type	Description
metric	metric object	Indicates the indicator parameter set.
dataPoints	Array of dataPoints objects	Key metric.

Table 9-235 metric

Parameter	Type	Description
dimensions	Array of dimensions objects	List of metric dimensions.
metricName	String	Metric name.
namespace	String	Specifies the metric namespace The options are as follows: <ul style="list-style-type: none"> • PAAS.CONTAINER: namespace of component metrics, instance metrics, process metrics, and container metrics • PAAS.NODE: namespace of host, network, disk, and file system metrics • PAAS.SLA: indicates the namespace of SLA metrics. • PAAS.AGGR: namespace of cluster metrics • CUSTOMMETRICS: default namespace of a user-defined metric

Table 9-236 dimensions

Parameter	Type	Description
name	String	Indicator dimension name.
value	String	Indicator dimension value.

Table 9-237 dataPoints

Parameter	Type	Description
timestamp	Integer	Timestamp.
unit	String	Time series unit.

Parameter	Type	Description
statistics	Array of statistics objects	List of statistical values.

Table 9-238 statistics

Parameter	Type	Description
statistic	String	Statistic.
value	Float	Statistical result.

Status code: 404

Table 9-239 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

Obtain the monitored resource pool information.

```
GET https://{endpoint}/v2/{project_id}/pools/{pool_name}/monitor
{ }
```

Example Responses

Status code: 200

OK

```
{
  "metrics" : [ {
    "metric" : {
      "dimensions" : [ {
        "name" : "clusterId",
        "value" : "83df17f1-d74c-11ec-a070-0255ac1000c3"
      } ],
      "metricName" : "cpuUsage",
      "namespace" : "PAAS.AGGR"
    },
    "dataPoints" : [ {
      "timestamp" : 1655193600000,
      "unit" : "Percent",
      "statistics" : [ {
        "statistic" : "average",
        "value" : 7.944
      } ]
    } ]
  } ]
}
```

```

    }]
  }, {
    "timestamp": 1655197200000,
    "unit": "Percent",
    "statistics": [ {
      "statistic": "average",
      "value": 7.88
    } ]
  } ]
}, {
  "metric": {
    "dimensions": [ {
      "name": "clusterId",
      "value": "83df17f1-d74c-11ec-a070-0255ac1000c3"
    } ],
    "metricName": "memUsedRate",
    "namespace": "PAAS.AGGR"
  },
  "dataPoints": [ {
    "timestamp": 1655193600000,
    "unit": "Percent",
    "statistics": [ {
      "statistic": "average",
      "value": 13.83
    } ]
  } ],
  "timestamp": 1655197200000,
  "unit": "Percent",
  "statistics": [ {
    "statistic": "average",
    "value": 13.836
  } ]
} ]
}, {
  "metric": {
    "dimensions": [ {
      "name": "clusterId",
      "value": "83df17f1-d74c-11ec-a070-0255ac1000c3"
    } ],
    "metricName": "gpuUtil",
    "namespace": "PAAS.AGGR"
  },
  "dataPoints": [ {
    "timestamp": 1655193600000,
    "unit": "Percent",
    "statistics": [ {
      "statistic": "average",
      "value": -1
    } ]
  } ],
  "timestamp": 1655197200000,
  "unit": "Percent",
  "statistics": [ {
    "statistic": "average",
    "value": -1
  } ]
} ]
}, {
  "metric": {
    "dimensions": [ {
      "name": "clusterId",
      "value": "83df17f1-d74c-11ec-a070-0255ac1000c3"
    } ],
    "metricName": "gpuMemUsage",
    "namespace": "PAAS.AGGR"
  },
  "dataPoints": [ {
    "timestamp": 1655193600000,
    "unit": "Percent",

```

```

"statistics": [ {
  "statistic": "average",
  "value": -1
}]
}, {
"timestamp": 1655197200000,
"unit": "Percent",
"statistics": [ {
  "statistic": "average",
  "value": -1
}]
}]
}, {
"metric": {
  "dimensions": [ {
    "name": "clusterId",
    "value": "83df17f1-d74c-11ec-a070-0255ac1000c3"
  }],
  "metricName": "npuUtil",
  "namespace": "PAAS.AGGR"
},
"dataPoints": [ {
  "timestamp": 1655193600000,
  "unit": "",
  "statistics": [ {
    "statistic": "average",
    "value": -1
  }]}
], {
"timestamp": 1655197200000,
"unit": "",
"statistics": [ {
  "statistic": "average",
  "value": -1
}]
}]
}, {
"metric": {
  "dimensions": [ {
    "name": "clusterId",
    "value": "83df17f1-d74c-11ec-a070-0255ac1000c3"
  }],
  "metricName": "npuMemUsage",
  "namespace": "PAAS.AGGR"
},
"dataPoints": [ {
  "timestamp": 1655193600000,
  "unit": "",
  "statistics": [ {
    "statistic": "average",
    "value": -1
  }]}
], {
"timestamp": 1655197200000,
"unit": "",
"statistics": [ {
  "statistic": "average",
  "value": -1
}]
}]
}, {
"metric": {
  "dimensions": [ {
    "name": "clusterId",
    "value": "83df17f1-d74c-11ec-a070-0255ac1000c3"
  }],
  "metricName": "diskAvailableCapacity",
  "namespace": "PAAS.AGGR"
},

```

```
"dataPoints" : [ {
  "timestamp" : 1655193600000,
  "unit" : "Megabytes",
  "statistics" : [ {
    "statistic" : "average",
    "value" : 834383.4
  } ]
}, {
  "timestamp" : 1655197200000,
  "unit" : "Megabytes",
  "statistics" : [ {
    "statistic" : "average",
    "value" : 834379.2
  } ]
} ]
}, {
  "metric" : {
    "dimensions" : [ {
      "name" : "clusterId",
      "value" : "83df17f1-d74c-11ec-a070-0255ac1000c3"
    } ],
    "metricName" : "diskCapacity",
    "namespace" : "PAAS.AGGR"
  },
  "dataPoints" : [ {
    "timestamp" : 1655193600000,
    "unit" : "Megabytes",
    "statistics" : [ {
      "statistic" : "average",
      "value" : 1105920
    } ]
  }, {
    "timestamp" : 1655197200000,
    "unit" : "Megabytes",
    "statistics" : [ {
      "statistic" : "average",
      "value" : 1105920
    } ]
  } ]
}, {
  "metric" : {
    "dimensions" : [ {
      "name" : "clusterId",
      "value" : "83df17f1-d74c-11ec-a070-0255ac1000c3"
    } ],
    "metricName" : "diskUsedRate",
    "namespace" : "PAAS.AGGR"
  },
  "dataPoints" : [ {
    "timestamp" : 1655193600000,
    "unit" : "Percent",
    "statistics" : [ {
      "statistic" : "average",
      "value" : 24.553
    } ]
  }, {
    "timestamp" : 1655197200000,
    "unit" : "Percent",
    "statistics" : [ {
      "statistic" : "average",
      "value" : 24.553
    } ]
  } ]
} ]
}
```

Status code: 404

Not found.


```
{
  "error_code" : "ModelArts.50015001",
  "error_msg" : "pool not found"
}
```

Status Codes

Status Code	Description
200	OK
404	Not found.

Error Codes

See [Error Codes](#).

9.18 Resource Pool Statistics

Function

This API is used to obtain resource pool statistics.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/statistics/pools

Table 9-240 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 9-241 Query Parameters

Parameter	Mandatory	Type	Description
workspaceId	No	String	Workspace. The default value is 0.

Request Parameters

None

Response Parameters

Status code: 200

Table 9-242 Response body parameters

Parameter	Type	Description
statistics	statistics object	Resource pool statistics.
operationTime	String	Time when statistics are collected.

Table 9-243 statistics

Parameter	Type	Description
status	status object	Statistics about resource pools in different states.

Table 9-244 status

Parameter	Type	Description
creating	Integer	Number of resource pools that are being created.
created	Integer	Number of resource pools that are successfully created.
failed	Integer	Number of resource pools that fail to be created in the last three days. The maximum value is 500.
pending	Integer	Number of pools in waiting state, usually yearly/monthly pools that have not been paid.

Status code: 500

Table 9-245 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.

Parameter	Type	Description
error_msg	String	Error message.

Example Requests

This interface is used to query resource pool monitoring information.

```
GET https://{endpoint}/v2/{project_id}/pools
{ }
```

Example Responses

Status code: 200

OK.

```
{
  "statistics" : {
    "status" : {
      "created" : 3,
      "creating" : 0,
      "failed" : 1,
      "pending" : 0
    }
  },
  "operationTime" : "2022-12-05 11:15:59.329633162 +0000 UTC"
}
```

Status code: 500

Internal error

```
{
  "error_code" : "ModelArts.50005000",
  "error_msg" : "internal error"
}
```

Status Codes

Status Code	Description
200	OK.
500	Internal error

Error Codes

See [Error Codes](#).

9.19 Obtaining Resource Specifications

Function

Obtain resource specifications.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/resourceflavors

Table 9-246 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 9-247 Query Parameters

Parameter	Mandatory	Type	Description
continue	No	String	Previous query location in pagination query.
labelSelector	No	String	Filter by label.
limit	No	Integer	Number of records on each page.

Request Parameters

None

Response Parameters

Status code: 200

Table 9-248 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. Options: <ul style="list-style-type: none"> • v1
kind	String	Resource type. Options: <ul style="list-style-type: none"> • ResourceFlavorList: resource specifications
metadata	metadata object	Metadata of resource specifications.
items	Array of ResourceFlavor objects	Resource specifications.

Table 9-249 metadata

Parameter	Type	Description
continue	String	Next query location in pagination query.
remainingItemCount	Integer	Remaining resources.

Table 9-250 ResourceFlavor

Parameter	Type	Description
apiVersion	String	API version. Options: <ul style="list-style-type: none"> • v1
kind	String	Resource type. Options: <ul style="list-style-type: none"> • ResourceFlavor: resource specification
metadata	metadata object	Metadata of a resource specification.
spec	ResourceFlavorSpec object	Description of a resource flavor.
status	ResourceFlavorStatus object	Status of a resource specification.

Table 9-251 metadata

Parameter	Type	Description
name	String	Resource specification name.
labels	ResourceFlavorLabel object	Specifies the tag information of the resource flavor.

Table 9-252 ResourceFlavorLabel

Parameter	Type	Description
os.modelarts/scope	String	Job type corresponding to the resource specification.

Table 9-253 ResourceFlavorSpec

Parameter	Type	Description
type	String	Resource specification type. The options are as follows: <ul style="list-style-type: none"> • Dedicate: physical resource
cpuArch	String	Computer architecture. Options: <ul style="list-style-type: none"> • x86 • arm64
cpu	String	Number of CPU cores.
memory	String	Memory size in GiB.
gpu	gpu object	GPU information.
npu	npu object	NPU information.
dataVolume	Array of dataVolume objects	Data disks.
billingModes	Array of integers	Billing mode supported by the flavor. Options: <ul style="list-style-type: none"> • 0: pay-per-use • 1: yearly/monthly
billingCode	String	Resource specification code, corresponding to an offering released on the operations platform.
jobFlavors	Array of strings	Training job types supported by resource specifications.

Table 9-254 gpu

Parameter	Type	Description
type	String	GPU type.
size	String	Number of GPUs

Table 9-255 npu

Parameter	Type	Description
type	String	NPU type.
size	String	Number of NPUs.

Table 9-256 dataVolume

Parameter	Type	Description
volumeType	String	Disk type. Options: <ul style="list-style-type: none"> SSD: ultra-high I/O disk GPSSD: general-purpose SSD disk SAS: high I/O disk SATA: common disk
size	String	Disk size, in GiB.

Table 9-257 ResourceFlavorStatus

Parameter	Type	Description
phase	Map<String,String>	Status of a resource flavor in each AZ. The value is in the format of (AZ,Status) . Options for the status: <ul style="list-style-type: none"> normal: The flavor is normal. soldout: The flavor is sold out.

Status code: 401

Table 9-258 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.

Parameter	Type	Description
error_msg	String	Error message.

Status code: 404

Table 9-259 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

This API is used to obtain resource specifications.

```
GET https://{endpoint}/v1/{project_id}/resourceflavors
{ }
```

Example Responses

Status code: 200

OK

```
{
  "kind" : "ResourceFlavorList",
  "apiVersion" : "v1",
  "metadata" : { },
  "items" : [ {
    "kind" : "ResourceFlavor",
    "apiVersion" : "v1",
    "metadata" : {
      "name" : "modelarts.vm.cpu8u32g",
      "labels" : { }
    },
    "spec" : {
      "cpuArch" : "x86",
      "cpu" : "8",
      "memory" : "32Gi",
      "type" : "Dedicate",
      "billingCode" : "modelarts.vm.cpu.8ud",
      "billingModes" : [ 0 ]
    },
    "status" : {
      "phase" : {
        "cn-north-7a" : "soldout",
        "cn-north-7b" : "soldout",
        "cn-north-7c" : "normal"
      }
    }
  } ]
}
```

Status code: 401

Authorization failed.

```
{
  "error_code": "ModelArts.50001000",
  "error_msg": "token is invalid"
}
```

Status code: 404

Not found.

```
{
  "error_code": "ModelArts.50005101",
  "error_msg": "Resourceflavor not found."
}
```

Status Codes

Status Code	Description
200	OK
401	Authorization failed.
404	Not found.

Error Codes

See [Error Codes](#).

9.20 Querying the dedicated resource pool Job List

Function

This API is used to query the dedicated resource pool job list.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/pools/{pool_name}/workloads

Table 9-260 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Parameter	Mandatory	Type	Description
pool_name	Yes	String	Namespace to which a job belongs.

Table 9-261 Query Parameters

Parameter	Mandatory	Type	Description
type	No	String	Service to which a job belongs. The options are as follows: <ul style="list-style-type: none"> • train: training job • infer: inference service • notebook: notebook job
status	No	String	Job status. The options are as follows: <ul style="list-style-type: none"> • Queue: queuing • Pending: waiting • Abnormal: abnormal • Terminating: The task is being terminated. • Creating: The gateway is being created. • Running • Completed: completed • Terminated: terminated • Failed: The task fails to be executed.
sort	No	String	Sorting basis field. The options are as follows: <ul style="list-style-type: none"> • create_time: Jobs are sorted by creation time.
ascend	No	Boolean	Indicates whether to sort data in ascending order.
offset	No	String	Start position of pagination query.
limit	No	Integer	Maximum number of records displayed on a page. If the value is empty or 0, the default value 500 is used. The maximum value is 500.

Request Parameters

None

Response Parameters

Status code: 200

Table 9-262 Response body parameters

Parameter	Type	Description
apiVersion	String	API version. The options are as follows: <ul style="list-style-type: none"> v1
kind	String	Resource type. The options are as follows: <ul style="list-style-type: none"> WorkloadList: job list
items	Array of Workload objects	Job list.

Table 9-263 Workload

Parameter	Type	Description
apiVersion	String	Resource version. The options are as follows: <ul style="list-style-type: none"> v1
kind	String	Resource type. The options are as follows: <ul style="list-style-type: none"> Workload
type	String	Service type of a job. The options are as follows: <ul style="list-style-type: none"> train: training job
namespace	String	Name of the resource pool to which a job belongs.
name	String	Job name.
jobName	String	Upper-layer service job name.
uid	String	Job UID.
jobUUID	String	Upper-layer service job ID.
flavor	String	Job specifications.
status	String	Job status.

Parameter	Type	Description
resourceRequirement	resourceRequirement object	Number of resource requests for running jobs.
priority	String	Job priority
runningDuration	Integer	Running duration of a job.
pendingDuration	Integer	Queuing duration of a job.
pendingPosition	Integer	Job queue position.
createTime	Integer	Indicates the time when a job is created.
gvk	String	Kubernetes resource type, group, and version of a job.
hostIps	String	List of IP addresses of the nodes where the job is running. Separate the IP addresses with commas (,).

Table 9-264 resourceRequirement

Parameter	Type	Description
cpu	String	CPU usage
memory	String	Memory usage
nvidia.com/gpu	String	GPU resource usage.
huawei.com/ascend-snt3	String	Ascend resource usage
huawei.com/ascend-snt9	String	Ascend resource usage

Status code: 400

Table 9-265 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 9-266 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

GET https://{endpoint}/v2/{project_id}/pools/{pool_name}/workloads

Example Responses

Status code: 400

Bad Request.

```
{
  "error_code" : "ModelArts.50004000",
  "error_msg" : "Bad request."
}
```

Status code: 404

Not Found.

```
{
  "error_code" : "ModelArts.50015001",
  "error_msg" : "Pool {name} not found."
}
```

Status Codes

Status Code	Description
200	OK.
400	Bad Request.
404	Not Found.

Error Codes

See [Error Codes](#).

9.21 Querying dedicated resource pool Job Statistics

Function

This API is used to query dedicated resource pool job statistics.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/statistics/pools/{pool_name}/workloads

Table 9-267 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
pool_name	Yes	String	Resource pool to which a job belongs.

Request Parameters

None

Response Parameters

Status code: 200

Table 9-268 Response body parameters

Parameter	Type	Description
statistics	statistics object	Statistics of a job.

Table 9-269 statistics

Parameter	Type	Description
total	Integer	Number of statistics lists.
items	Array of WorkloadStatistics objects	Statistics of a specific job type.

Table 9-270 WorkloadStatistics

Parameter	Type	Description
type	String	Type of a job. The options are as follows: <ul style="list-style-type: none"> • train: training job • infer: inference job • notebook: notebook job
total	Integer	Number of jobs.
status	status object	Number of jobs in different states.

Table 9-271 status

Parameter	Type	Description
Queue	Integer	Number of jobs in the queue.
Pending	Integer	Number of jobs in waiting state.
Abnormal	Integer	Number of abnormal jobs.
Terminating	Integer	Number of jobs being terminated.
Creating	Integer	Number of jobs being created.
Running	Integer	Number of running jobs.
Completed	Integer	Number of completed jobs.
Terminated	Integer	Number of terminated jobs.
Failed	Integer	Number of jobs that fail to be executed.

Status code: 400

Table 9-272 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Status code: 404

Table 9-273 Response body parameters

Parameter	Type	Description
error_code	String	Error codes of ModelArts.
error_msg	String	Error message.

Example Requests

GET https://{endpoint}/v2/{project_id}/statistics/pools/{pool_name}/workloads

Example Responses

Status code: 400

Bad Request.

```
{
  "error_code": "ModelArts.50004000",
  "error_msg": "Bad request."
}
```

Status code: 404

Not Found.

```
{
  "error_code": "ModelArts.50015001",
  "error_msg": "Pool {name} not found."
}
```

Status Codes

Status Code	Description
200	OK.
400	Bad Request.
404	Not Found.

Error Codes

See [Error Codes](#).

10 DevServer Management

10.1 Obtaining All DevServer Instances of a User

Function

This API is used to obtain all DevServer instances of a user.

Constraints

No constraints

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/dev-servers

Table 10-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 10-2 Query Parameters

Parameter	Mandatory	Type	Description
owner	No	String	User ID of the instance, which contains 32 characters, including lowercase letters and digits. This parameter is valid only when the account is a big account or has the admin permission. Generally, the value is the ID of the current login user.
sort_dir	No	String	Sorting method. Enums: <ul style="list-style-type: none"> • ASC: ascending order • DESC: descending order
sort_key	No	String	Sorting field. Enums: <ul style="list-style-type: none"> • createTime: sorting by creation time (default value) • updateTime: sorting by update time
limit	No	Integer	Number of records on each page
offset	No	Integer	Start offset of the records on each page

Request Parameters

None

Response Parameters

Status code: 200

Table 10-3 Response body parameters

Parameter	Type	Description
current	Integer	Current page
data	Array of ServerResponse objects	DevServer instance list.
pages	Integer	Total number of pages
size	Integer	Number of records on each page

Parameter	Type	Description
total	Long	Total number of records

Table 10-4 ServerResponse

Parameter	Type	Description
create_at	Long	Creation time
update_at	Long	Update time
charging_mode	String	Billing mode. <ul style="list-style-type: none"> ● COMMON: Both yearly/monthly and pay-per-use are supported. ● POST_PAID: pay-per-use ● PRE_PAID: yearly/monthly
cloud_server	CloudServer object	Cloud service information
endpoints_response	Array of Endpoints objects	Private IP address of the instance
flavor	String	Instance flavor name
id	String	Instance ID
key_pair_name	String	Key pair name
name	String	Instance name
order_id	String	Order ID
server_image_response	ServerImageResponse object	Instance image

Parameter	Type	Description
status	String	Instance status. <ul style="list-style-type: none"> ● CREATE_FAILED: Creating the instance failed. ● CREATING: The instance is being created. ● DELETED: The instance has been deleted. ● DELETE_FAILED: Deleting the instance failed. ● DELETING: The instance is being deleted. ● ERROR: An error occurred. ● RUNNING: The instance is running. ● STARTING: The instance is starting. ● START_FAILED: Starting the instance failed. ● STOPPED: The instance has been stopped. ● STOPPING: The instance is being stopped. ● STOP_FAILED: Stopping the instance failed.
vpc_id	String	ID of the VPC to which the instance belongs
endpoints	Array of EndpointsRes objects	Private IP address of the server
image	ServerImageResponse object	Server image information

Table 10-5 CloudServer

Parameter	Type	Description
id	String	Server resource ID
type	String	DevServer type. Enums: <ul style="list-style-type: none"> ● BMS ● ECS

Table 10-6 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all public IP addresses can access the notebook instances. If this parameter is specified, only the clients at the specified IP addresses can access the notebook instances.
dev_service	String	Supported service. Enums: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH. • AI_FLOW • MA_STUDIO • TENSOR_BOARD • WEB_IDE
extensions	Map<String,String>	App-specific URL for accessing the remote development mode of the App.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

Table 10-7 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelist of public IP addresses that are allowed to access the notebook instance through SSH. By default, all public IP addresses can access the notebook instance. If this parameter is specified, only the clients with the specified IP addresses can access the notebook instance.
dev_service	String	Supported service. Options: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access the notebook instance through SSH.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

Parameter	Type	Description
service	String	Supported service. The options are: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH.
uri	String	Private IP address of the instance

Table 10-8 ServerImageResponse

Parameter	Type	Description
arch	String	Architecture of the server image. The options are as follows: <ul style="list-style-type: none"> • ARM • X86
image_id	String	Server image ID
name	String	Server image name
server_type	String	Server type. Enums: <ul style="list-style-type: none"> • BMS • ECS

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers
```

Example Responses

Status code: 200

OK

```
{
  "current" : 0,
  "data" : [ {
    "charging_mode" : "POST_PAID",
    "cloud_server" : {
      "id" : "eb8b4e32-afc9-4f71-8372-1f55f3d7ab28",
      "type" : "ECS"
    },
  },
  "create_at" : 1699352013484,
  "endpoints" : [ {
    "service" : "SSH",
    "uri" : "192.168.0.23"
  } ],
  "flavor" : "Si2.large.4",
  "id" : "c65c4f27-f791-452b-9098-a2726fa2e922",
  "image" : {
    "arch" : "X86",
```

```
{
  "image_id" : "c90fb553-2cdb-4b81-b56a-ef68812c6cf7",
  "name" : "Ubuntu18.04_x86_64_CPU",
  "server_type" : "ECS"
},
{
  "name" : "EI-eva-01",
  "status" : "RUNNING",
  "update_at" : 1699352058465,
  "vpc_id" : "05982b48-a70f-43a1-a2b0-1fe36a236172"
}, {
  "charging_mode" : "POST_PAID",
  "cloud_server" : {
    "type" : "ECS"
  },
  "create_at" : 1699348284990,
  "flavor" : "Si2.large.4",
  "id" : "62383738-e52a-450a-9f84-f9e705402be8",
  "image" : {
    "arch" : "X86",
    "image_id" : "c90fb553-2cdb-4b81-b56a-ef68812c6cf7",
    "name" : "Ubuntu18.04_x86_64_CPU",
    "server_type" : "ECS"
  },
  "name" : "EI-eva-1107",
  "status" : "CREATING",
  "update_at" : 1699348285077
} ],
"pages" : 1,
"size" : 2,
"total" : 2
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See [Error Codes](#).

10.2 Creating a DevServer Instance

Function

This API is used to create a DevServer instance.

Constraints

No constraints

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v1/{project_id}/dev-servers

Table 10-9 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 10-10 Request body parameters

Parameter	Mandatory	Type	Description
admin_pass	No	String	Password for logging in to the server. Note that either admin_pass or key_pair_name must be specified. The password must meet the following requirements: <ul style="list-style-type: none"> • Must contain 8 to 26 characters. • Must contain at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters !@%_-+=+[{ }];,./? • Cannot be the username or the username backwards. • Cannot contain root, administrator, or their reverse.
arch	No	String	Server architecture. The options are as follows: <ul style="list-style-type: none"> • ARM • X86
availability_zone	No	String	AZ
charging_info	No	ChargingInfo object	Charging information of the server

Parameter	Mandatory	Type	Description
count	No	Integer	Number of servers purchased at a time
enterprise_project_id	No	String	Project ID
flavor	Yes	String	Server flavor name
image_id	Yes	String	Server image ID
key_pair_name	No	String	Name of the key pair for logging in to the server. Note that either admin_pass or key_pair_name must be specified.
name	Yes	String	Server name
network	Yes	ServerNetwork object	Server network information
root_volume	No	EvsVolume object	System disk information of the server
server_type	No	String	Server type. Enums: <ul style="list-style-type: none"> • BMS • ECS
userdata	No	String	Data defined by users during server creation

Table 10-11 ChargingInfo

Parameter	Mandatory	Type	Description
charging_mode	Yes	String	Charging mode. Enums: <ul style="list-style-type: none"> • COMMON: prepaid and postpaid charging modes • POST_PAID: postpaid charging mode • PRE_PAID: prepaid charging mode
is_auto_pay	No	Boolean	is auto pay
is_auto_renew	No	Boolean	is auto renew
period_num	Yes	Integer	period num

Parameter	Mandatory	Type	Description
period_type	Yes	String	Period type. <ul style="list-style-type: none"> • ABSOLUTE • DAY • HOUR • MONTH • WEEK • YEAR

Table 10-12 ServerNetwork

Parameter	Mandatory	Type	Description
ipv6_enable	No	Boolean	Whether to enable IPv6 for the server to be created
roce_id	No	String	RoCE network ID of the server
security_group_id	Yes	String	ID of security group to which the server belongs
subnet_id	Yes	String	ID of the subnet where the server is located
vpc_id	Yes	String	ID of the VPC to which the server belongs

Table 10-13 EvsVolume

Parameter	Mandatory	Type	Description
size	No	Integer	System disk size
type	No	String	System disk type. The options are: <ul style="list-style-type: none"> • ESSD; • GPSSD; • SAS; • SATA; • SSD

Response Parameters

Status code: 200

Table 10-14 Response body parameters

Parameter	Type	Description
create_at	Long	Creation time
update_at	Long	Update time
charging_mode	String	Billing mode. <ul style="list-style-type: none"> ● COMMON: Both yearly/monthly and pay-per-use are supported. ● POST_PAID: pay-per-use ● PRE_PAID: yearly/monthly
cloud_server	CloudServer object	Cloud service information
endpoints_response	Array of Endpoints objects	Private IP address of the instance
flavor	String	Instance flavor name
id	String	Instance ID
key_pair_name	String	Key pair name
name	String	Instance name
order_id	String	Order ID
server_image_response	ServerImageResponse object	Instance image
status	String	Instance status. <ul style="list-style-type: none"> ● CREATE_FAILED: Creating the instance failed. ● CREATING: The instance is being created. ● DELETED: The instance has been deleted. ● DELETE_FAILED: Deleting the instance failed. ● DELETING: The instance is being deleted. ● ERROR: An error occurred. ● RUNNING: The instance is running. ● STARTING: The instance is starting. ● START_FAILED: Starting the instance failed. ● STOPPED: The instance has been stopped. ● STOPPING: The instance is being stopped. ● STOP_FAILED: Stopping the instance failed.

Parameter	Type	Description
vpc_id	String	ID of the VPC to which the instance belongs
endpoints	Array of EndpointsRes objects	Private IP address of the server
image	ServerImageResponse object	Server image information

Table 10-15 CloudServer

Parameter	Type	Description
id	String	Server resource ID
type	String	DevServer type. Enums: <ul style="list-style-type: none"> • BMS • ECS

Table 10-16 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all public IP addresses can access the notebook instances. If this parameter is specified, only the clients at the specified IP addresses can access the notebook instances.
dev_service	String	Supported service. Enums: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH. • AI_FLOW • MA_STUDIO • TENSOR_BOARD • WEB_IDE
extensions	Map<String,String>	App-specific URL for accessing the remote development mode of the App.

Parameter	Type	Description
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

Table 10-17 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelist of public IP addresses that are allowed to access the notebook instance through SSH. By default, all public IP addresses can access the notebook instance. If this parameter is specified, only the clients with the specified IP addresses can access the notebook instance.
dev_service	String	Supported service. Options: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access the notebook instance through SSH.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	Supported service. The options are: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH.
uri	String	Private IP address of the instance

Table 10-18 ServerImageResponse

Parameter	Type	Description
arch	String	Architecture of the server image. The options are as follows: <ul style="list-style-type: none"> • ARM • X86
image_id	String	Server image ID
name	String	Server image name

Parameter	Type	Description
server_type	String	Server type. Enums: <ul style="list-style-type: none"> • BMS • ECS

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers
{
  "name": "EI-eva-1107",
  "flavor": "Si2.large.4",
  "image_id": "c90fb553-2cdb-4b81-b56a-ef68812c6cf7",
  "network": {
    "security_group_id": "150a2c76-1334-45f6-b28f-419f9b1d1742",
    "subnet_id": "38cf274a-98f9-4f6f-b622-5ed0e4a3db54",
    "vpc_id": "05982b48-a70f-43a1-a2b0-1fe36a236172"
  },
  "admin_pass": "@DevServer"
}
```

Example Responses

Status code: 200

OK

```
{
  "charging_mode": "PRE_PAID",
  "cloud_server": {
    "type": "ECS"
  },
  "create_at": 1699348284990,
  "flavor": "Si2.large.4",
  "id": "62383738-e52a-450a-9f84-f9e705402be8",
  "image": {
    "arch": "X86",
    "image_id": "c90fb553-2cdb-4b81-b56a-ef68812c6cf7",
    "name": "Ubuntu18.04_x86_64_CPU",
    "server_type": "ECS"
  },
  "name": "EI-eva-1107",
  "status": "CREATING",
  "update_at": 1699348285077
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See [Error Codes](#).

10.3 Obtaining DevServer Instance Details

Function

This API is used to obtain DevServer instance details.

Constraints

No constraints

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/dev-servers/{id}

Table 10-19 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	DevServer ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

Status code: 200

Table 10-20 Response body parameters

Parameter	Type	Description
create_at	Long	Creation time
update_at	Long	Update time

Parameter	Type	Description
charging_mode	String	Billing mode. <ul style="list-style-type: none"> ● COMMON: Both yearly/monthly and pay-per-use are supported. ● POST_PAID: pay-per-use ● PRE_PAID: yearly/monthly
cloud_server	CloudServer object	Cloud service information
endpoints_response	Array of Endpoints objects	Private IP address of the instance
flavor	String	Instance flavor name
id	String	Instance ID
key_pair_name	String	Key pair name
name	String	Instance name
order_id	String	Order ID
server_image_response	ServerImageResponse object	Instance image
status	String	Instance status. <ul style="list-style-type: none"> ● CREATE_FAILED: Creating the instance failed. ● CREATING: The instance is being created. ● DELETED: The instance has been deleted. ● DELETE_FAILED: Deleting the instance failed. ● DELETING: The instance is being deleted. ● ERROR: An error occurred. ● RUNNING: The instance is running. ● STARTING: The instance is starting. ● START_FAILED: Starting the instance failed. ● STOPPED: The instance has been stopped. ● STOPPING: The instance is being stopped. ● STOP_FAILED: Stopping the instance failed.
vpc_id	String	ID of the VPC to which the instance belongs
endpoints	Array of EndpointsRes objects	Private IP address of the server

Parameter	Type	Description
image	ServerImage Response object	Server image information

Table 10-21 CloudServer

Parameter	Type	Description
id	String	Server resource ID
type	String	DevServer type. Enums: <ul style="list-style-type: none"> • BMS • ECS

Table 10-22 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all public IP addresses can access the notebook instances. If this parameter is specified, only the clients at the specified IP addresses can access the notebook instances.
dev_service	String	Supported service. Enums: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH. • AI_FLOW • MA_STUDIO • TENSOR_BOARD • WEB_IDE
extensions	Map<String,String>	App-specific URL for accessing the remote development mode of the App.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

Table 10-23 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelist of public IP addresses that are allowed to access the notebook instance through SSH. By default, all public IP addresses can access the notebook instance. If this parameter is specified, only the clients with the specified IP addresses can access the notebook instance.
dev_service	String	Supported service. Options: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access the notebook instance through SSH.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	Supported service. The options are: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH.
uri	String	Private IP address of the instance

Table 10-24 ServerImageResponse

Parameter	Type	Description
arch	String	Architecture of the server image. The options are as follows: <ul style="list-style-type: none"> • ARM • X86
image_id	String	Server image ID
name	String	Server image name
server_type	String	Server type. Enums: <ul style="list-style-type: none"> • BMS • ECS

Example Requests

GET https://{endpoint}/v1/{project_id}/dev-servers/{id}

Example Responses

Status code: 200

OK

```
{
  "charging_mode": "POST_PAID",
  "cloud_server": {
    "type": "ECS"
  },
  "create_at": 1699348284990,
  "flavor": "Si2.large.4",
  "id": "62383738-e52a-450a-9f84-f9e705402be8",
  "image": {
    "arch": "X86",
    "image_id": "c90fb553-2cdb-4b81-b56a-ef68812c6cf7",
    "name": "Ubuntu18.04_x86_64_CPU",
    "server_type": "ECS"
  },
  "name": "EI-ecs-1107",
  "status": "STARTING",
  "update_at": 1699348285077
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See [Error Codes](#).

10.4 Deleting DevServer Instances

Function

This API is used to delete DevServer instances.

Constraints

No constraints

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v1/{project_id}/dev-servers/{id}

Table 10-25 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	DevServer ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

Status code: 200

Table 10-26 Response body parameters

Parameter	Type	Description
create_at	Long	Creation time
update_at	Long	Update time
charging_mode	String	Billing mode. <ul style="list-style-type: none"> ● COMMON: Both yearly/monthly and pay-per-use are supported. ● POST_PAID: pay-per-use ● PRE_PAID: yearly/monthly
cloud_server	CloudServer object	Cloud service information
endpoints_response	Array of Endpoints objects	Private IP address of the instance
flavor	String	Instance flavor name
id	String	Instance ID
key_pair_name	String	Key pair name
name	String	Instance name
order_id	String	Order ID
server_image_response	ServerImageResponse object	Instance image

Parameter	Type	Description
status	String	Instance status. <ul style="list-style-type: none"> ● CREATE_FAILED: Creating the instance failed. ● CREATING: The instance is being created. ● DELETED: The instance has been deleted. ● DELETE_FAILED: Deleting the instance failed. ● DELETING: The instance is being deleted. ● ERROR: An error occurred. ● RUNNING: The instance is running. ● STARTING: The instance is starting. ● START_FAILED: Starting the instance failed. ● STOPPED: The instance has been stopped. ● STOPPING: The instance is being stopped. ● STOP_FAILED: Stopping the instance failed.
vpc_id	String	ID of the VPC to which the instance belongs
endpoints	Array of EndpointsRes objects	Private IP address of the server
image	ServerImageResponse object	Server image information

Table 10-27 CloudServer

Parameter	Type	Description
id	String	Server resource ID
type	String	DevServer type. Enums: <ul style="list-style-type: none"> ● BMS ● ECS

Table 10-28 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all public IP addresses can access the notebook instances. If this parameter is specified, only the clients at the specified IP addresses can access the notebook instances.
dev_service	String	Supported service. Enums: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH. • AI_FLOW • MA_STUDIO • TENSOR_BOARD • WEB_IDE
extensions	Map<String,String>	App-specific URL for accessing the remote development mode of the App.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

Table 10-29 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelist of public IP addresses that are allowed to access the notebook instance through SSH. By default, all public IP addresses can access the notebook instance. If this parameter is specified, only the clients with the specified IP addresses can access the notebook instance.
dev_service	String	Supported service. Options: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access the notebook instance through SSH.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

Parameter	Type	Description
service	String	Supported service. The options are: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH.
uri	String	Private IP address of the instance

Table 10-30 ServerImageResponse

Parameter	Type	Description
arch	String	Architecture of the server image. The options are as follows: <ul style="list-style-type: none"> • ARM • X86
image_id	String	Server image ID
name	String	Server image name
server_type	String	Server type. Enums: <ul style="list-style-type: none"> • BMS • ECS

Example Requests

```
DELETE https://{endpoint}/v1/{project_id}/dev-servers/{id}
```

Example Responses

Status code: 200

OK

```
{
  "charging_mode": "POST_PAID",
  "cloud_server": {
    "type": "ECS"
  },
  "create_at": 1699348284990,
  "flavor": "Si2.large.4",
  "id": "62383738-e52a-450a-9f84-f9e705402be8",
  "image": {
    "arch": "X86",
    "image_id": "c90fb553-2cdb-4b81-b56a-ef68812c6cf7",
    "name": "Ubuntu18.04_x86_64_CPU",
    "server_type": "ECS"
  },
  "name": "EI-eva-1107",
  "status": "DELETING",
  "update_at": 1699348285077
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See [Error Codes](#).

10.5 Synchronizing the Status of All DevServer Instances of a User in Real Time

Function

This API is used to synchronize the status of all DevServer instances of a user in real time.

Constraints

No constraints

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v1/{project_id}/dev-servers/sync

Table 10-31 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 10-32 Query Parameters

Parameter	Mandatory	Type	Description
owner	No	String	User ID of the instance, which contains 32 characters, including lowercase letters and digits. This parameter is valid only when the account is a big account or has the admin permission. Generally, the value is the ID of the current login user.
sort_dir	No	String	Sorting order. The options are ASC (ascending order) and DESC (descending order).
sort_key	No	String	Sorting fields. Separate multiple fields with commas (,).
offset	No	Integer	Start offset of the records on each page
limit	No	Integer	Number of records on each page

Request Parameters

None

Response Parameters

Status code: 200

Table 10-33 Response body parameters

Parameter	Type	Description
current	Integer	Current page
data	Array of ServerResponse objects	DevServer instance list.
pages	Integer	Total number of pages
size	Integer	Number of records on each page
total	Long	Total number of records

Table 10-34 ServerResponse

Parameter	Type	Description
create_at	Long	Creation time
update_at	Long	Update time
charging_mode	String	Billing mode. <ul style="list-style-type: none"> ● COMMON: Both yearly/monthly and pay-per-use are supported. ● POST_PAID: pay-per-use ● PRE_PAID: yearly/monthly
cloud_server	CloudServer object	Cloud service information
endpoints_response	Array of Endpoints objects	Private IP address of the instance
flavor	String	Instance flavor name
id	String	Instance ID
key_pair_name	String	Key pair name
name	String	Instance name
order_id	String	Order ID
server_image_response	ServerImageResponse object	Instance image
status	String	Instance status. <ul style="list-style-type: none"> ● CREATE_FAILED: Creating the instance failed. ● CREATING: The instance is being created. ● DELETED: The instance has been deleted. ● DELETE_FAILED: Deleting the instance failed. ● DELETING: The instance is being deleted. ● ERROR: An error occurred. ● RUNNING: The instance is running. ● STARTING: The instance is starting. ● START_FAILED: Starting the instance failed. ● STOPPED: The instance has been stopped. ● STOPPING: The instance is being stopped. ● STOP_FAILED: Stopping the instance failed.

Parameter	Type	Description
vpc_id	String	ID of the VPC to which the instance belongs
endpoints	Array of EndpointsRes objects	Private IP address of the server
image	ServerImageResponse object	Server image information

Table 10-35 CloudServer

Parameter	Type	Description
id	String	Server resource ID
type	String	DevServer type. Enums: <ul style="list-style-type: none"> • BMS • ECS

Table 10-36 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all public IP addresses can access the notebook instances. If this parameter is specified, only the clients at the specified IP addresses can access the notebook instances.
dev_service	String	Supported service. Enums: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH. • AI_FLOW • MA_STUDIO • TENSOR_BOARD • WEB_IDE
extensions	Map<String,String>	App-specific URL for accessing the remote development mode of the App.

Parameter	Type	Description
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

Table 10-37 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelist of public IP addresses that are allowed to access the notebook instance through SSH. By default, all public IP addresses can access the notebook instance. If this parameter is specified, only the clients with the specified IP addresses can access the notebook instance.
dev_service	String	Supported service. Options: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access the notebook instance through SSH.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	Supported service. The options are: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH.
uri	String	Private IP address of the instance

Table 10-38 ServerImageResponse

Parameter	Type	Description
arch	String	Architecture of the server image. The options are as follows: <ul style="list-style-type: none"> • ARM • X86
image_id	String	Server image ID
name	String	Server image name

Parameter	Type	Description
server_type	String	Server type. Enums: <ul style="list-style-type: none"> • BMS • ECS

Example Requests

```
PUT https://{endpoint}/v1/{project_id}/dev-servers/sync
```

Example Responses

Status code: 200

OK

```
{
  "current" : 0,
  "data" : [ {
    "charging_mode" : "POST_PAID",
    "cloud_server" : {
      "id" : "eb8b4e32-afc9-4f71-8372-1f55f3d7ab28",
      "type" : "ECS"
    },
    },
    "create_at" : 1699352013484,
    "endpoints" : [ {
      "service" : "SSH",
      "uri" : "192.168.0.23"
    } ],
    "flavor" : "Si2.large.4",
    "id" : "c65c4f27-f791-452b-9098-a2726fa2e922",
    "image" : {
      "arch" : "X86",
      "image_id" : "c90fb553-2cdb-4b81-b56a-ef68812c6cf7",
      "name" : "Ubuntu18.04_x86_64_CPU",
      "server_type" : "ECS"
    },
    "name" : "EI-eva-01",
    "status" : "RUNNING",
    "update_at" : 1699352058465,
    "vpc_id" : "05982b48-a70f-43a1-a2b0-1fe36a236172"
  }, {
    "charging_mode" : "POST_PAID",
    "cloud_server" : {
      "type" : "ECS"
    },
    },
    "create_at" : 1699348284990,
    "flavor" : "Si2.large.4",
    "id" : "62383738-e52a-450a-9f84-f9e705402be8",
    "image" : {
      "arch" : "X86",
      "image_id" : "c90fb553-2cdb-4b81-b56a-ef68812c6cf7",
      "name" : "Ubuntu18.04_x86_64_CPU",
      "server_type" : "ECS"
    },
    },
    "name" : "EI-eva-1107",
    "status" : "CREATING",
    "update_at" : 1699348285077
  } ],
  "pages" : 1,
  "size" : 2,
  "total" : 2
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See [Error Codes](#).

10.6 Starting DevServer Instances

Function

This API is used to start DevServer instances.

Constraints

No constraints

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v1/{project_id}/dev-servers/{id}/start

Table 10-39 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	DevServer ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 10-40 Request body parameters

Parameter	Mandatory	Type	Description
arch	No	String	Server architecture. The options are: <ul style="list-style-type: none"> • ARM; • X86
charging_mode	No	String	Billing mode of server specifications. The options are as follows: <ul style="list-style-type: none"> • COMMON: Both yearly/monthly and pay-per-use are supported. • POST_PAID: pay-per-use; • PRE_PAID: yearly/monthly
server_type	No	String	Server type. Enums: <ul style="list-style-type: none"> • BMS • ECS

Response Parameters

Status code: 200

Table 10-41 Response body parameters

Parameter	Type	Description
create_at	Long	Creation time
update_at	Long	Update time
charging_mode	String	Billing mode. <ul style="list-style-type: none"> • COMMON: Both yearly/monthly and pay-per-use are supported. • POST_PAID: pay-per-use • PRE_PAID: yearly/monthly
cloud_server	CloudServer object	Cloud service information
endpoints_response	Array of Endpoints objects	Private IP address of the instance
flavor	String	Instance flavor name

Parameter	Type	Description
id	String	Instance ID
key_pair_name	String	Key pair name
name	String	Instance name
order_id	String	Order ID
server_image_response	ServerImageResponse object	Instance image
status	String	Instance status. <ul style="list-style-type: none"> ● CREATE_FAILED: Creating the instance failed. ● CREATING: The instance is being created. ● DELETED: The instance has been deleted. ● DELETE_FAILED: Deleting the instance failed. ● DELETING: The instance is being deleted. ● ERROR: An error occurred. ● RUNNING: The instance is running. ● STARTING: The instance is starting. ● START_FAILED: Starting the instance failed. ● STOPPED: The instance has been stopped. ● STOPPING: The instance is being stopped. ● STOP_FAILED: Stopping the instance failed.
vpc_id	String	ID of the VPC to which the instance belongs
endpoints	Array of EndpointsRes objects	Private IP address of the server
image	ServerImageResponse object	Server image information

Table 10-42 CloudServer

Parameter	Type	Description
id	String	Server resource ID

Parameter	Type	Description
type	String	DevServer type. Enums: <ul style="list-style-type: none"> • BMS • ECS

Table 10-43 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all public IP addresses can access the notebook instances. If this parameter is specified, only the clients at the specified IP addresses can access the notebook instances.
dev_service	String	Supported service. Enums: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH. • AI_FLOW • MA_STUDIO • TENSOR_BOARD • WEB_IDE
extensions	Map<String,String>	App-specific URL for accessing the remote development mode of the App.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

Table 10-44 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelist of public IP addresses that are allowed to access the notebook instance through SSH. By default, all public IP addresses can access the notebook instance. If this parameter is specified, only the clients with the specified IP addresses can access the notebook instance.

Parameter	Type	Description
dev_service	String	Supported service. Options: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access the notebook instance through SSH.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	Supported service. The options are: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH.
uri	String	Private IP address of the instance

Table 10-45 ServerImageResponse

Parameter	Type	Description
arch	String	Architecture of the server image. The options are as follows: <ul style="list-style-type: none"> • ARM • X86
image_id	String	Server image ID
name	String	Server image name
server_type	String	Server type. Enums: <ul style="list-style-type: none"> • BMS • ECS

Example Requests

```
PUT https://{endpoint}/v1/{project_id}/dev-servers/{id}/start
{ }
```

Example Responses

Status code: 200

OK

```
{
  "charging_mode" : "POST_PAID",
```

```

"cloud_server" : {
  "type" : "ECS"
},
"create_at" : 1699348284990,
"flavor" : "Si2.large.4",
"id" : "62383738-e52a-450a-9f84-f9e705402be8",
"image" : {
  "arch" : "X86",
  "image_id" : "c90fb553-2cdb-4b81-b56a-ef68812c6cf7",
  "name" : "Ubuntu18.04_x86_64_CPU",
  "server_type" : "ECS"
},
"name" : "EI-ecs-1107",
"status" : "STARTING",
"update_at" : 1699348285077
}

```

Status Codes

Status Code	Description
200	OK

Error Codes

See [Error Codes](#).

10.7 Stopping DevServer Instances

Function

This API is used to stop DevServer instances.

Constraints

No constraints

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v1/{project_id}/dev-servers/{id}/stop

Table 10-46 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	DevServer ID

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

Status code: 200

Table 10-47 Response body parameters

Parameter	Type	Description
create_at	Long	Creation time
update_at	Long	Update time
charging_mode	String	Billing mode. <ul style="list-style-type: none"> ● COMMON: Both yearly/monthly and pay-per-use are supported. ● POST_PAID: pay-per-use ● PRE_PAID: yearly/monthly
cloud_server	CloudServer object	Cloud service information
endpoints_response	Array of Endpoints objects	Private IP address of the instance
flavor	String	Instance flavor name
id	String	Instance ID
key_pair_name	String	Key pair name
name	String	Instance name
order_id	String	Order ID
server_image_response	ServerImageResponse object	Instance image

Parameter	Type	Description
status	String	Instance status. <ul style="list-style-type: none"> ● CREATE_FAILED: Creating the instance failed. ● CREATING: The instance is being created. ● DELETED: The instance has been deleted. ● DELETE_FAILED: Deleting the instance failed. ● DELETING: The instance is being deleted. ● ERROR: An error occurred. ● RUNNING: The instance is running. ● STARTING: The instance is starting. ● START_FAILED: Starting the instance failed. ● STOPPED: The instance has been stopped. ● STOPPING: The instance is being stopped. ● STOP_FAILED: Stopping the instance failed.
vpc_id	String	ID of the VPC to which the instance belongs
endpoints	Array of EndpointsRes objects	Private IP address of the server
image	ServerImageResponse object	Server image information

Table 10-48 CloudServer

Parameter	Type	Description
id	String	Server resource ID
type	String	DevServer type. Enums: <ul style="list-style-type: none"> ● BMS ● ECS

Table 10-49 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all public IP addresses can access the notebook instances. If this parameter is specified, only the clients at the specified IP addresses can access the notebook instances.
dev_service	String	Supported service. Enums: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH. • AI_FLOW • MA_STUDIO • TENSOR_BOARD • WEB_IDE
extensions	Map<String,String>	App-specific URL for accessing the remote development mode of the App.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

Table 10-50 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelist of public IP addresses that are allowed to access the notebook instance through SSH. By default, all public IP addresses can access the notebook instance. If this parameter is specified, only the clients with the specified IP addresses can access the notebook instance.
dev_service	String	Supported service. Options: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access the notebook instance through SSH.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

Parameter	Type	Description
service	String	Supported service. The options are: <ul style="list-style-type: none"> • NOTEBOOK: You can access notebook instances using HTTPS. • SSH: You can remotely access notebook instances through SSH.
uri	String	Private IP address of the instance

Table 10-51 ServerImageResponse

Parameter	Type	Description
arch	String	Architecture of the server image. The options are as follows: <ul style="list-style-type: none"> • ARM • X86
image_id	String	Server image ID
name	String	Server image name
server_type	String	Server type. Enums: <ul style="list-style-type: none"> • BMS • ECS

Example Requests

```
PUT https://{endpoint}/v1/{project_id}/dev-servers/{id}/stop
```

Example Responses

Status code: 200

OK

```
{
  "charging_mode": "POST_PAID",
  "cloud_server": {
    "type": "ECS"
  },
  "create_at": 1699348284990,
  "flavor": "Si2.large.4",
  "id": "62383738-e52a-450a-9f84-f9e705402be8",
  "image": {
    "arch": "X86",
    "image_id": "c90fb553-2cdb-4b81-b56a-ef68812c6cf7",
    "name": "Ubuntu18.04_x86_64_CPU",
    "server_type": "ECS"
  },
  "name": "EI-eva-1107",
  "status": "STOPPING",
  "update_at": 1699348285077
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See [Error Codes](#).

11 Authorization Management

11.1 Viewing an Authorization List

Function

This API is used to view an authorization list.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/authorizations

Table 11-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 11-2 Query Parameters

Parameter	Mandatory	Type	Description
sort_by	No	String	Sorting field. Enums: <ul style="list-style-type: none">• user_name: IAM user• create_time: creation time

Parameter	Mandatory	Type	Description
order	No	String	Sorting order. Enums: <ul style="list-style-type: none"> • asc: ascending order • desc: descending order
limit	No	Integer	Maximum number of records returned on each page. Default value: 1000 The value range ranges from 1 to 1000.
offset	No	Integer	Start page for pagination display. The default value is 0 .

Request Parameters

None

Response Parameters

Status code: 200

Table 11-3 Response body parameters

Parameter	Type	Description
total_count	Number	Authorization information.
auth	Array of AuthorizationResponse objects	Authorization information list.

Table 11-4 AuthorizationResponse

Parameter	Type	Description
user_id	String	User ID. For details, see Obtaining a Username and ID . If user_id is set to all , all IAM users are authorized. If some IAM users have been authorized, the authorization setting will be updated. This parameter is mandatory only if the authorization method is set to Agency .

Parameter	Type	Description
type	String	Authorization type. Agency is recommended. Options: <ul style="list-style-type: none"> ● agency: authorization through an agency ● credential: authorization through an access Key (AK/SK)
content	String	Authorization content. <ul style="list-style-type: none"> ● If Authorization Type is set to Agency, this field indicates the agency name. ● If Authorization Type is set to AK/SK, this field indicates the access key ID (AK).
secret_key	String	Secret Access Key (SK). This field is required only when Authorization Method is set to AK/SK .
user_name	String	Username. If user_id is set to all-users , all users will be displayed.
create_time	Long	Timestamp when a training job was created

Example Requests

View an authorization list.

```
GET https://{endpoint}/v2/{project_id}/authorizations
```

Example Responses

Status code: 200

OK

```
{
  "total_count" : 1,
  "auth" : [ {
    "user_id" : "****d80fb058844ae8b82aa66d9fe****",
    "user_name" : "iam-user01",
    "type" : "agency",
    "content" : "modelarts_agency",
    "create_time" : 15657747821288
  } ]
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Status Code	Description
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

11.2 Configuring Authorization

Function

This API is used to configure ModelArts authorization. ModelArts functions such as training management, development environment, data management, and real-time services can be properly used only after required permissions are assigned. The administrator can use this API to configure an agency for IAM users and configure the access key of the current user.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/authorizations

Table 11-5 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 11-6 Request body parameters

Parameter	Mandatory	Type	Description
user_id	No	String	User ID. For details, see Obtaining a Username and ID . If user_id is set to all , all IAM users are authorized. If some IAM users have been authorized, the authorization setting will be updated. This parameter is mandatory only if the authorization method is set to Agency .
type	No	String	Authorization type. Agency is recommended. Options: <ul style="list-style-type: none"> • agency: authorization through an agency • credential: authorization through an access Key (AK/SK)
content	Yes	String	Authorization content. <ul style="list-style-type: none"> • If Authorization Type is set to Agency, this field indicates the agency name. • If Authorization Type is set to AK/SK, this field indicates the access key ID (AK).
secret_key	No	String	Secret Access Key (SK). This field is required only when Authorization Method is set to AK/SK .
user_name	No	String	Username. If user_id is set to all-users , all users will be displayed.

Response Parameters

None

Example Requests

The following is an example of how to upload authorization whose authorization type is **agency** and authorization content is **modelarts_agency**.

```
POST https://{endpoint}/v2/{project_id}/authorizations
{
  "user_id" : "****d80fb058844ae8b82aa66d9fe****",
  "type" : "agency",
  "content" : "modelarts_agency"
}
```

Example Responses

Status code: 200

OK

```
{
  "result" : "true"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

11.3 Deleting Authorization

Function

This API is used to delete the authorization of a specified user or all users.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v2/{project_id}/authorizations

Table 11-7 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 11-8 Query Parameters

Parameter	Mandatory	Type	Description
user_id	No	String	User ID. If this parameter is set to all , the authorization of all IAM users will be deleted.

Request Parameters

None

Response Parameters

None

Example Requests

Delete the authorization of a specified user.

```
DELETE https://{endpoint}/v2/{project_id}/authorizations?user_id=****d80fb058844ae8b82aa66d9fe****
```

Example Responses

Status code: 200

OK

```
{
  "result" : "true"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Status Code	Description
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

11.4 Creating a ModelArts Agency

Function

This API is used to create an agency so that ModelArts can access dependent services such as OBS, SWR, and IEF.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/agency

Table 11-9 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 11-10 Request body parameters

Parameter	Mandatory	Type	Description
agency_name_suffix	No	String	<p>Agency name suffix.</p> <p>The parameter contains a maximum of 50 characters.</p> <p>The agency name prefix is consistently to be ma_agency.</p> <p>For example, if the value of this parameter is iam-user01, the name of the created agency is ma_agency_iam-user01.</p> <p>The value of this parameter is left blank by default, indicating that an agency named modelarts_agency is created.</p>

Response Parameters

None

Example Requests

The following is an example of how to create a ModelArts agency whose name suffix is **iam-user01**.

```
POST https://{endpoint}/v2/{project_id}/agency
{
  "agency_name_suffix" : "iam-user01"
}
```

Example Responses

Status code: 200

OK

```
{
  "agency_name" : "ma_agency_iam-user01"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

12 Managing DevEnviron Instances

12.1 Querying All Notebook Instances

Function

This API is used to obtain all development environment instances that meet the search criteria.

Constraints

No constraints

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v1/{project_id}/notebooks/all

Table 12-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 12-2 Query Parameters

Parameter	Mandatory	Type	Description
feature	No	String	Instance type. The default value is NOTEBOOK . Enums: <ul style="list-style-type: none"> • DEFAULT: free CodeLab instance. You can create only one. • NOTEBOOK: billed instance.
limit	No	Integer	Number of records on each page. The default value is 10 .
name	No	String	Instance name, which contains a maximum of 128 characters and can consist of uppercase and lowercase letters, digits, hyphens (-), and underscores (_). Fuzzy match is supported.
pool_id	No	String	ID of a dedicated resource pool
offset	No	Integer	Start offset of the records on each page. The default value is 0 .
owner	No	String	User ID of the instance, which contains 32 characters, including lowercase letters and digits. This parameter is valid only when the account is a big account or has the admin permission. Generally, the value is the ID of the current login user.
sort_dir	No	String	Sorting order. The options are ASC (ascending order) and DESC (descending order). The default value is DESC .
sort_key	No	String	Sorting fields. Separate multiple fields with commas (,).

Parameter	Mandatory	Type	Description
status	No	String	Instance status. Enums: <ul style="list-style-type: none"> • INIT: The instance is being initialized. • CREATING: The instance is being created. • STARTING: The instance is starting. • STOPPING: The instance is being stopped. • DELETING: The instance is being deleted. • RUNNING: The instance is running. • STOPPED: The instance has been stopped. • SNAPSHOTTING: The image of the instance is being saved. • CREATE_FAILED: Creating the instance failed. • START_FAILED: Starting the instance failed. • DELETE_FAILED: Deleting the instance failed. • ERROR: An error occurred. • DELETED: The instance has been deleted. • FROZEN: The instance is frozen.
workspaceId	No	String	Workspace ID. If no workspaces are available, the default value is 0 .

Request Parameters

None

Response Parameters

Status code: 200

Table 12-3 Response body parameters

Parameter	Type	Description
current	Integer	Current page
data	Array of NotebookResp objects	Data
pages	Integer	Total pages
size	Integer	Number of records on each page
total	Long	Total records

Table 12-4 NotebookResp

Parameter	Type	Description
action_progress	Array of JobProgress objects	Instance initialization progress.
description	String	Instance description
endpoints	Array of EndpointsRes objects	This section describes how to configure the local IDE (such as PyCharm and VS Code) or SSH client to remotely access a notebook instance through SSH.
fail_reason	String	Instance failure cause
flavor	String	Instance flavor
id	String	Instance ID.
image	Image object	Instance image
lease	Lease object	Countdown to automatic instance stop.
name	String	Instance name
pool	Pool object	Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.

Parameter	Type	Description
status	String	Instance status. Options: <ul style="list-style-type: none"> • INIT: The instance is being initialized. • CREATING: The instance is being created. • STARTING: The instance is starting. • STOPPING: The instance is being stopped. • DELETING: The instance is being deleted. • RUNNING: The instance is running. • STOPPED: The instance has been stopped. • SNAPSHOTTING: The image of the instance is being saved. • CREATE_FAILED: Creating the instance failed. • START_FAILED: Starting the instance failed. • DELETE_FAILED: Deleting the instance failed. • ERROR: An error occurred. • DELETED: The instance has been deleted. • FROZEN: The instance is frozen.
token	String	Token information used for notebook authentication.
url	String	URL for accessing the notebook instance
volume	VolumeRes object	Storage volume
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .
feature	String	Instance type. Options: <ul style="list-style-type: none"> • DEFAULT: free CodeLab instance. You can create only one. • NOTEBOOK: billed instance.

Table 12-5 JobProgress

Parameter	Type	Description
notebook_id	String	Instance ID.

Parameter	Type	Description
status	String	Job status in a specified step. Enums: <ul style="list-style-type: none"> ● WAITING: The job is awaiting. ● PROCESSING: The job is being processed. ● FAILED: The job failed. ● COMPLETED: The job is complete.
step	Integer	Job step. Options: <ul style="list-style-type: none"> ● 1: Prepare storage. ● 2: Prepare compute resources. ● 3: Configure the network. ● 4: Initialize the instance.
step_description	String	Description of a step in a job.

Table 12-6 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	Whitelist of public IP addresses that are allowed to access the notebook instance through SSH. By default, all public IP addresses can access the notebook instance. If this parameter is specified, only the clients with the specified IP addresses can access the notebook instance.
dev_service	String	Supported service. Options: <ul style="list-style-type: none"> ● NOTEBOOK: You can access notebook instances using HTTPS. ● SSH: You can remotely access the notebook instance through SSH.
ssh_keys	Array of strings	List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	Supported service. The options are: <ul style="list-style-type: none"> ● NOTEBOOK: You can access notebook instances using HTTPS. ● SSH: You can remotely access notebook instances through SSH.
uri	String	Private IP address of the instance

Table 12-7 Image

Parameter	Type	Description
arch	String	Processor architecture supported by the image. Enums: <ul style="list-style-type: none"> ● X86_64: x86 architecture ● AARCH64: Arm architecture
create_at	Long	Specifies the time (UTC ms) when the image is created.
description	String	Image description with a maximum of 512 characters
dev_services	Array of strings	Services supported by the image. Enums: <ul style="list-style-type: none"> ● NOTEBOOK: You can access a notebook instance using HTTPS. ● SSH: You can remotely access a notebook instance from a local IDE through SSH.
id	String	ID of the image used for creating development environment instances. The ID is in Universally Unique Identifier (UUID) format. For details, see Querying Supported Images .
name	String	Image name, which contains a maximum of 512 characters, including lowercase letters, digits, hyphens (-), underscores (_), and periods (.)
namespace	String	Organization to which the image belongs. You can create and view the organization on the Organization Management page of the SWR console.
origin	String	Image source, which defaults to CUSTOMIZE . This parameter is optional. Enums: <ul style="list-style-type: none"> ● CUSTOMIZE: custom image ● IMAGE_SAVE: image saved using a development environment instance
resource_categories	Array of strings	Flavors supported by the image. Enums: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND

Parameter	Type	Description
service_type	String	Supported image types. Options: <ul style="list-style-type: none"> ● COMMON: common image ● INFERENCE: image used for inference ● TRAIN: image used for training ● DEV: image used for development and debugging ● UNKNOWN: image whose supported services are not specified
size	Long	Specifies the image size, in KB.
status	String	Image status. Options: <ul style="list-style-type: none"> ● INIT: The image is being initialized. ● CREATING: The image is being saved. In this case, the notebook instance is unavailable. ● CREATE_FAILED: Saving the image failed. ● ERROR: An error occurs. ● DELETED: The image has been deleted. ● ACTIVE: The image has been saved, which you can view on the SWR console and use to create notebook instances.
status_message	String	Build information during image saving
support_resource_categories	Array of strings	Flavors supported by the image. Options: <ul style="list-style-type: none"> ● CPU ● GPU ● ASCEND
swr_path	String	SWR image address
tag	String	Image tag
type	String	Image type. Options: <ul style="list-style-type: none"> ● BUILD_IN: built-in system image ● DEDICATED: private image
update_at	Long	Specifies the time (UTC ms) when the image was last updated.
visibility	String	Image visibility. Enums: <ul style="list-style-type: none"> ● PRIVATE: private image ● PUBLIC: All users can perform read-only operations based on the image ID.

Parameter	Type	Description
workspace_id	String	Workspace ID. If no workspaces are available, the default value is 0 .

Table 12-8 Lease

Parameter	Type	Description
create_at	Long	Time (UTC) when the instance is created, accurate to millisecond.
duration	Long	Instance running duration, which is calculated based on the instance creation time. If the instance creation time plus the duration is greater than the current time, the system automatically stops the instance.
enable	Boolean	Whether to enable auto stop of the instance.
type	String	Indicates the automatic stop type.
update_at	Long	Time (UTC) when the instance is last updated (excluding the keepalive heartbeat time), accurate to millisecond.

Table 12-9 Pool

Parameter	Type	Description
id	String	ID of a dedicated resource pool
name	String	Name of a dedicated resource pool

Table 12-10 VolumeRes

Parameter	Type	Description
capacity	Integer	Storage capacity. The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4096 GB.
category	String	Supported storage types. For details about the differences between the storage types, see Selecting Storage in DevEnviron . Options: <ul style="list-style-type: none"> • SFS: Scalable File Service • EVS

Parameter	Type	Description
mount_path	String	Directory of the notebook instance to which OBS storage is mounted. Currently, the directory is /home/ma-user/work/ .
ownership	String	Owner to which the resource belongs. Enums: <ul style="list-style-type: none"> ● MANAGED: Resources are managed by the service. ● DEDICATED: Resources are managed by the user account. This mode is supported only when the instance category is EFS.
status	String	EVS disk capacity expansion status, which is RESIZING during capacity expansion and does not affect the instance.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/notebooks/all
```

Example Responses

Status code: 200

OK

```
{
  "current" : 0,
  "data" : [ {
    "description" : "api-test",
    "feature" : "DEFAULT",
    "flavor" : "modelarts.vm.cpu.free",
    "id" : "f9937afa-ca78-45b6-bc12-7ecf42553c48",
    "image" : {
      "id" : "e1a07296-22a8-4f05-8bc8-e936c8e54090",
      "name" : "notebook2.0-mul-kernel-cpu-cp36",
      "swr_path" : "swr.xxxx.com/atelier/notebook2.0-mul-kernel-cpu-cp36:3.3.2-release_v1",
      "type" : "BUILD_IN"
    },
    "lease" : {
      "create_at" : 1638841805439,
      "duration" : 3600000,
      "enable" : true,
      "update_at" : 1638841805439
    },
    "name" : "notebook_5ee4bf0e",
    "status" : "CREATING",
    "token" : "58ba50c6-e8ff-245c-4840-49e51aa70737",
    "volume" : {
      "category" : "EVS",
      "ownership" : "MANAGED",
      "mount_path" : "/home/ma-user/work/",
      "capacity" : 50
    },
    "workspace_id" : "0"
  }, {
    "description" : "api-test",
    "feature" : "NOTEBOOK",
    "flavor" : "modelarts.vm.cpu.2u",
    "id" : "f9937afa-4451-42db-a76b-72d624749f66",
```

```
"image" : {
  "id" : "e1a07296-22a8-4f05-8bc8-e936c8e54090",
  "name" : "notebook2.0-mul-kernel-cpu-cp36",
  "swr_path" : "swr.xxxx.com/atelier/notebook2.0-mul-kernel-cpu-cp36:3.3.2-release_v1",
  "type" : "BUILD_IN"
},
"lease" : {
  "create_at" : 1638841744515,
  "duration" : 3600000,
  "enable" : true,
  "update_at" : 1638841744515
},
"name" : "notebooks_test",
"status" : "CREATING",
"token" : "3eff13f2-3d70-5456-6dc7-e3f99f562022",
"volume" : {
  "category" : "EVS",
  "ownership" : "MANAGED",
  "mount_path" : "/home/ma-user/work/",
  "capacity" : 50
},
"workspace_id" : "0"
}],
"pages" : 1,
"size" : 10,
"total" : 2
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

13 Use Cases

13.1 Creating a Development Environment Instance

This section describes how to create a development environment instance by calling ModelArts APIs.

Overview

The process for creating a development environment instance is as follows:

1. Call the API for [authentication](#) to obtain a user token, which will be added in a request header for authentication.
2. Call the API for [querying supported images](#) to view the image type and version in the development environment.
3. Call the API for [creating a notebook instance](#) to create an instance.
4. Call the API for [querying details of a notebook instance](#) to query the instance creation details based on the instance ID.
5. Call the API for [prolonging a notebook instance](#) to reset the usage duration of the instance.
6. Call the API for [stopping a notebook instance](#) to stop the instance that is running.
7. Call the API for [starting a notebook instance](#) to restart the instance.
8. Call the API for [deleting a notebook instance](#) to delete the instance that is no longer needed.

Prerequisites

- You have obtained the endpoints of [IAM](#) and [ModelArts](#).
- The following information is available: region where ModelArts is deployed, project ID and name, account name and ID, and username and user ID.

Procedure

1. Call the API for [authentication](#) to obtain a user token.

a. Request body:

URI: POST `https://{iam_endpoint}/v3/auth/tokens`

Request header: Content-Type → application/json

Request body:

```
{
  "auth": {
    "identity": {
      "methods": ["password"],
      "password": {
        "user": {
          "name": "user_name",
          "password": "user_password",
          "domain": {
            "name": "domain_name"
          }
        }
      }
    },
    "scope": {
      "project": {
        "name": "ap-southeast-1"
      }
    }
  }
}
```

Set the following parameters based on site requirements:

- *iam_endpoint*: IAM endpoint
- **user_name**: IAM username
- **user_password**: password of the login user
- **domain_name**: account to which the user belongs
- **ap-southeast-1**: project name, which is the region where ModelArts is deployed

b. Status code **201 Created** is returned. The **X-Subject-Token** value in the response header is the token.

x-subject-token
→ `MIIZmgYJKoZlhvcNAQcColIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...`

2. Call the API for [querying supported images](#) to view the image type and version in the development environment.

a. Request body:

URI: GET `https://{ma_endpoint}/v1/{project_id}/images`

Request header:

- X-auth-Token
→ `MIIZmgYJKoZlhvcNAQcColIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...`
- Content-Type → application/json

Set the following parameters based on site requirements:

- *ma_endpoint*: ModelArts endpoint
- *project_id*: user's project ID

- **X-auth-Token:** token obtained in the previous step
- b. Status code **200** is returned. The response body is as follows:

```
{
  "current": 0,
  "data": [
    {
      "arch": "x86_64",
      "description": "CPU and GPU general algorithm development and training, preconfigured with AI engine PyTorch1.8",
      "dev_services": [
        "NOTEBOOK",
        "SSH"
      ],
      "id": "278e88d1-5b71-4766-8502-b3ba72e824d9",
      "name": "pytorch1.8-cuda10.2-cudnn7-ubuntu18.04",
      "resource_categories": [
        "CPU",
        "GPU"
      ],
      "service_type": "COMMON",
      "status": "ACTIVE",
      "swr_path": "swr.myhuaweicloud.com/atelier/pytorch_1_8:pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64-20221118143845-d65d817",
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>tag": "mindspore_1.10.0-cann_6.0.1-py_3.7-euler_2.8.3-aarch64-
d910-20230303173945-815d627",
"tags": [],
"type": "BUILD_IN",
"update_at": 1683537880548,
"visibility": "PUBLIC",
"workspace_id": "0"
},
{
"arch": "x86_64",
"description": "CPU algorithm development and training, including the MLStudio tool for
graphical ML algorithm development, and preconfigured PySpark 2.3.2",
"dev_services": [
"NOTEBOOK"
],
"id": "0e5f9a41-c9c2-4d9a-a190-4e1b17a7782f",
"name": "mlstudio-pyspark2.3.2-ubuntu16.04",
"resource_categories": [
"CPU"
],
"service_type": "TRAIN",

```



```

"status": "ACTIVE",
"swr_path": "swr.myhuaweicloud.com/atelier/notebook2.0-mlstudio-cp36:3.3.1.9",
"tag": "3.3.1.9",
"tags": [],
"type": "BUILD_IN",
"update_at": 1648867218685,
"workspace_id": "0"
},
{
  "arch": "x86_64",
  "description": "notebook2.0 cpu base image",
  "dev_services": [
    "NOTEBOOK",
    "SSH"
  ],
  "id": "e1a07296-22a8-4f05-8bc8-e936c8e54090",
  "name": "notebook2.0-mul-kernel-cpu-cp36",
  "resource_categories": [
    "CPU"
  ],
  "service_type": "TRAIN",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/notebook2.0-mul-kernel-cpu-cp36:5.0.1-release-
v2-20220505",
  "tag": "5.0.1-release-v2-20220505",
  "tags": [],
  "type": "BUILD_IN",
  "update_at": 1628221753345,
  "workspace_id": "0"
},
{
  "arch": "x86_64",
  "description": "GPU algorithm development and training, preconfigured with the AI engine
MindSpore-GPU",
  "dev_services": [
    "NOTEBOOK",
    "SSH"
  ],
  "id": "d7fb5355-9045-4deb-94c6-4033e1e62728",
  "name": "mindspore1.2.0-openmpi2.1.1-ubuntu18.04",
  "resource_categories": [
    "GPU"
  ],
  "service_type": "TRAIN",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/mindspore_1_2_0:mindspore_1.2.0-py_3.7-
ubuntu_18.04-x86_64-20221118143809-d65d817",
  "tag": "mindspore_1.2.0-py_3.7-ubuntu_18.04-x86_64-20221118143809-d65d817",
  "tags": [],
  "type": "BUILD_IN",
  "update_at": 1636963735672,
  "workspace_id": "0"
},
{
  "arch": "x86_64",
  "create_at": 1628757809703,
  "description": "CPU operations research development, preconfigured with cylv, cbcpy, ortools,
cplex(community).",
  "dev_services": [
    "NOTEBOOK",
    "SSH"
  ],
  "id": "b9933af0-3119-4045-a427-5e668327dafd",
  "name": "cylv0.91.4-cbcpy2.10-ortools9.0-cplex20.1.0-ubuntu18.04",
  "namespace": "atelier",
  "resource_categories": [
    "CPU"
  ],
  "service_type": "TRAIN",

```

```

"size": 2550402546,
"status": "ACTIVE",
"swr_path": "swr.myhuaweicloud.com/atelier/or_1_0_0:or_1.0.0-py_3.7-ubuntu_18.04-x86_64-roma-20220812093355-e50493d",
"tag": "or_1.0.0-py_3.7-ubuntu_18.04-x86_64-roma-20220812093355-e50493d",
"tags": [],
"type": "BUILD_IN",
"update_at": 1642836699554,
"workspace_id": "0"
},
{
  "arch": "x86_64",
  "description": "CPU algorithm development and training, including the MLStudio tool for graphical ML algorithm development, and preconfigured PySpark 2.4.5",
  "dev_services": [
    "NOTEBOOK"
  ],
  "id": "0b2d0728-4c01-11ec-994f-001a7dda7111",
  "name": "mlstudio-pyspark2.4.5-ubuntu18.04",
  "resource_categories": [
    "CPU"
  ],
  "service_type": "TRAIN",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/notebook2.0-mlstudio-cp37:5.0.1-mls-20230118153946",
  "tag": "5.0.1-mls-20230118153946",
  "tags": [],
  "type": "BUILD_IN",
  "update_at": 1648867218708,
  "workspace_id": "0"
},
{
  "arch": "x86_64",
  "create_at": 1605759392404,
  "description": "GPU algorithm development and training, preconfigured with the AI engine MindSpore-GPU",
  "dev_services": [
    "NOTEBOOK",
    "SSH"
  ],
  "id": "89de30ec-6871-4f22-84af-be37ef28335d",
  "name": "mindspore1.2.0-cuda10.1-cudnn7-ubuntu18.04",
  "resource_categories": [
    "GPU"
  ],
  "service_type": "TRAIN",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/mindspore_1_2_0:mindspore_1.2.0-py_3.7-cuda_10.1-ubuntu_18.04-x86_64-20221118143809-d65d817",
  "tag": "mindspore_1.2.0-py_3.7-cuda_10.1-ubuntu_18.04-x86_64-20221118143809-d65d817",
  "tags": [],
  "type": "BUILD_IN",
  "update_at": 1648867218639,
  "workspace_id": "0"
},
{
  "arch": "x86_64",
  "description": "description",
  "dev_services": [
    "NOTEBOOK"
  ],
  "id": "88bd7bcd-0c91-45b2-ad0e-ef65553d19c5",
  "name": "dls-feature-engineering",
  "resource_categories": [
    "CPU"
  ],
  "service_type": "TRAIN",
  "status": "ACTIVE",

```

```

"swr_path": "swr.myhuaweicloud.com/atelier/notebook2.0-mul-kernel-dls-feature-engineering-
cpu-py37:3.2.0109",
"tag": "3.2.0109",
"tags": [],
"type": "BUILD_IN",
"update_at": 1623899358020,
"workspace_id": "0"
},
{
"arch": "x86_64",
"description": "description",
"dev_services": [
"NOTEBOOK"
],
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"resource_categories": [
"CPU"
],
"service_type": "TRAIN",
"status": "ACTIVE",
"swr_path": "swr.myhuaweicloud.com/atelier/notebook2.0-mul-kernel-mls-feature-
engineering-cpu-py37:3.2.0109",
"tag": "3.2.0109",
"tags": [],
"type": "BUILD_IN",
"update_at": 1623899357995,
"workspace_id": "0"
},
{
"arch": "x86_64",
"description": "MindSpore1.7.0 and MindQuantum0.6.0",
"dev_services": [
"NOTEBOOK",
"SSH"
],
"id": "6592fa02-a40a-4054-a05f-f22215e45ec1",
"name": "mindquantum0.6.0-mindspore1.7.0-ubuntu18.04",
"resource_categories": [
"CPU"
],
"service_type": "TRAIN",
"status": "ACTIVE",
"swr_path": "swr.myhuaweicloud.com/atelier/mindspore_1_7_0:mindspore_1.7.0-cpu-py_3.7-
ubuntu_18.04-x86_64-20220727174747-6a4cdd5",
"tag": "mindspore_1.7.0-cpu-py_3.7-ubuntu_18.04-x86_64-20220727174747-6a4cdd5",
"tags": [],
"type": "BUILD_IN",
"workspace_id": "0"
},
{
"arch": "x86_64",
"create_at": 1628757853111,
"description": "CPU and GPU algorithm development and training, preconfigured with AI
engine ray for reinforcement learning.",
"dev_services": [
"NOTEBOOK",
"SSH"
],
"id": "4233d6f9-c3b5-4cf2-9ee6-2ef565935d6d",
"name": "rlstudio1.0.0-ray1.3.0-cuda10.1-ubuntu18.04",
"namespace": "rl-dev",
"resource_categories": [
"CPU",
"GPU"
],
"service_type": "TRAIN",
"size": 4857883146,
"status": "ACTIVE",

```

```

"swr_path": "swr.myhuaweicloud.com/atelier/notebook2.0-rl-1.0.0-kernel-cp37:rl-
v1220211203",
"tag": "rl-v1220211203",
"tags": [],
"type": "BUILD_IN",
"update_at": 1642836699527,
"workspace_id": "0"
},
{
"arch": "aarch64",
"description": "Ascend+ARM algorithm development and training. TensorFlow and MindSpore
are preset in the AI engine.",
"dev_services": [
"NOTEBOOK",
"SSH"
],
"id": "59a6e9f5-93c0-44dd-85b0-82f390c5d53b",
"name": "tensorflow1.15-mindspore1.7.0-cann5.1.0-euler2.8-aarch64",
"resource_categories": [
"CPU",
"ASCEND"
],
"service_type": "TRAIN",
"status": "ACTIVE",
"swr_path": "swr.myhuaweicloud.com/atelier/notebook2.0-mul-kernel-arm-ascend-cp37:5.0.1-
c81-20220726",
"tag": "5.0.1-c81-20220726",
"tags": [],
"type": "BUILD_IN",
"update_at": 1640398185602,
"workspace_id": "0"
},
{
"arch": "x86_64",
"description": "CPU general algorithm development and training, preconfigured with AI
engine MindSpore1.7.0",
"dev_services": [
"NOTEBOOK",
"SSH"
],
"id": "9d63f4d1-dc09-4873-b669-3483cea777c0",
"name": "mindspore1.7.0-ubuntu18.04-default",
"resource_categories": [
"CPU"
],
"service_type": "TRAIN",
"status": "ACTIVE",
"swr_path": "swr.myhuaweicloud.com/atelier/mindspore_1_7_0:mindspore_1.7.0-cpu-py_3.7-
ubuntu_18.04-x86_64-20220625205423-5a13f29",
"tag": "mindspore_1.7.0-cpu-py_3.7-ubuntu_18.04-x86_64-20220625205423-5a13f29",
"tags": [],
"type": "BUILD_IN",
"workspace_id": "0"
},
{
"arch": "x86_64",
"description": "CPU and GPU general algorithm development and training, preconfigured with
AI engine MindSpore1.7.0 and cuda10.1",
"dev_services": [
"NOTEBOOK",
"SSH"
],
"id": "e1a07296-22a8-4f05-8bc8-e936c8e54203",
"name": "mindspore1.7.0-ubuntu18.04-default",
"resource_categories": [
"GPU"
],
"service_type": "TRAIN",
"status": "ACTIVE",

```

```
"swr_path": "swr.myhuaweicloud.com/atelier/mindspore_1_7_0:mindspore_1.7.0-cuda_10.1-
py_3.7-ubuntu_18.04-x86_64-20220625205423-5a13f29",
"tag": "mindspore_1.7.0-cuda_10.1-py_3.7-ubuntu_18.04-x86_64-20220625205423-5a13f29",
"tags": [],
"type": "BUILD_IN",
"workspace_id": "0"
}
],
"pages": 1,
"size": 200,
"total": 39
}
```

Select the image required for creating a notebook instance based on the **description** and **name** parameters and record its ID. This section provides an example of using TensorFlow to create a notebook instance with an **id** of **e1a07296-22a8-4f05-8bc8-e936c8e54100**.

3. Call the API for [creating a notebook instance](#) to create an instance.

a. Request body:

URI: POST `https://{ma_endpoint}/v1/{project_id}/notebooks`

Request header:

- X-auth-Token
→ *MIIZmgYJKoZlhvcNAQcColIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...*
- Content-Type → application/json

Request body:

```
{
  "name": "notebooks_test",
  "feature": "NOTEBOOK",
  "workspace_id": "0",
  "description": "api-test",
  "flavor": "modelarts.vm.cpu.2u",
  "image_id": "e1a07296-22a8-4f05-8bc8-e936c8e54090",
  "volume": {
    "category": "efs",
    "ownership": "managed",
    "capacity": 50
  }
}
```

Set the following parameters based on site requirements:

- *ma_endpoint*: ModelArts endpoint
 - *project_id*: user's project ID
 - **X-auth-Token**: token obtained in the previous step
 - **flavor**: flavor of the notebook instance
 - **image_id**: image ID of the notebook instance
- b. Status code **200** is returned. The response body is as follows:

```
{
  "action_progress": [
    {
      "step": 4,
      "status": "WAITING",
      "description": "Initialize the notebook instance."
    }
  ],
}
```

```
{
  "step": 3,
  "status": "WAITING",
  "description": "Configuring the network."
},
{
  "step": 2,
  "status": "WAITING",
  "description": "Prepare the compute resource."
},
{
  "step": 1,
  "status": "WAITING",
  "description": "Prepare the storage."
}
],
"create_at": 1687656452472,
"description": "api-test",
"endpoints": [],
"feature": "NOTEBOOK",
"flavor": "modelarts.vm.cpu.2u",
"id": "936bea3e-d3df-435e-8b58-d817283284ae",
"image": {
  "description": "",
  "id": "e1a07296-22a8-4f05-8bc8-e936c8e54090",
  "name": "notebook2.0-mul-kernel-cpu-cp36",
  "swr_path": "swr.myhuaweicloud.com/atelier/notebook2.0-mul-kernel-cpu-cp36:5.0.1-release-v2-20220505",
  "tag": "5.0.1-release-v2-20220505",
  "type": "BUILD_IN"
},
"lease": {
  "create_at": 1687656452470,
  "duration": 3600000,
  "enable": true,
  "type": "TIMING",
  "update_at": 1687656452470
},
"name": "notebooks_test",
"status": "RUNNING",
"tags": [],
"token": "3452e0d5-15fe-a20d-18a2-010a574aeaaaf",
"update_at": 1687656452588,
"user_id": "99250e439b33431081xxxxxxxxxa885",
"workspace_id": "0",
"billing_items": []
}
```

You can view the notebook instance details in the response. If **status** is **RUNNING**, the notebook instance is successfully created.

4. Call the API for **querying details of a notebook instance** to query the instance creation details based on the instance ID.

- a. Request body:

URI: GET `https://{ma_endpoint}/v1/{project_id}/notebooks/{id}`

Request header: X-auth-Token

→ **MIIZmgYJKoZlIhvcNAQcCollZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...**

Set the bold parameters based on site requirements.

- b. Status code **200** is returned. The response body is as follows:

```
{
  "create_at": 1687656452472,
  "data_volumes": [],
  "description": "api-test",
  "endpoints": [
```

```
{
  "service": "NOTEBOOK",
  "uri": "https://authoring-modelarts.huaweicloud.com/936bea3e-d3df-435e-8b58-d817283284ae/lab"
},
"feature": "NOTEBOOK",
"flavor": "modelarts.vm.cpu.2u",
"id": "936bea3e-d3df-435e-8b58-d817283284ae",
"image": {
  "description": "",
  "id": "e1a07296-22a8-4f05-8bc8-e936c8e54090",
  "name": "notebook2.0-mul-kernel-cpu-cp36",
  "swr_path": "swr.myhuaweicloud.com/atelier/notebook2.0-mul-kernel-cpu-cp36:5.0.1-release-v2-20220505",
  "tag": "5.0.1-release-v2-20220505",
  "type": "BUILD_IN"
},
"lease": {
  "create_at": 1687656452470,
  "duration": 3627372,
  "enable": true,
  "type": "TIMING",
  "update_at": 1687656479842
},
"name": "notebooks_test",
"status": "RUNNING",
"tags": [],
"token": "3452e0d5-15fe-a20d-18a2-010a574aeaaf",
"update_at": 1687656479880,
"url": "https://authoring-modelarts.huaweicloud.com/936bea3e-d3df-435e-8b58-d817283284ae/lab",
"user": {
  "domain": {
    "id": "878991804cdc4ba597xxxxxxxx9dd9",
    "name": "hwstaff_pub_CBUInfo_EI"
  },
  "id": "99250e439b33431081xxxxxxxxxa885",
  "name": "xwx1128222"
},
"user_id": "99250e439b33431081xxxxxxxxxa885",
"volume": {
  "category": "EFS",
  "ownership": "MANAGED",
  "mount_path": "/home/ma-user/work/",
  "capacity": 50,
  "read_only": false
},
"workspace_id": "0",
"billing_items": [
  "COMPUTE"
]
}
```

5. Call the API for **prolonging a notebook instance** to reset the usage duration of the instance.

- a. Request body:

URI: PATCH `https://{ma_endpoint}/v1/{project_id}/notebooks/{id}/lease`

Request header:

- X-auth-Token
→ ***MIIZmgYJKoZlhcNAQcCollIzicCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***
- Content-Type → application/json

Request body:

```
{
  "duration": 3600000,
  "type": "timing"
}
```

Set the following parameters based on site requirements:

- **duration**: instance running duration, which is calculated based on the instance creation time. If the instance creation time plus the duration is greater than the current time, the system automatically stops the instance.
 - **type**: auto stop type. The default value is **timing**.
- b. Status code **200** is returned, indicating that labeling is successful. The response body is as follows:

```
{
  "create_at": 1687656452470,
  "duration": 4657544,
  "enable": true,
  "type": "TIMING",
  "update_at": 1687657510014
}
```

6. Call the API for **stopping a notebook instance** to stop the instance that is running.

- a. Request body.

URI: POST `https://{ma_endpoint}/v1/{project_id}/notebooks/{id}/stop`

Request header: X-auth-Token

→ ***MIIZmgYJKoZlhvcNAQcCoIIzizCCGYcCAQExDTALBgIghkgBZQMEAgEwgXXXXXX...***

Set the bold parameters based on site requirements.

- b. Status code **200** is returned. The response body is as follows:

```
{
  "create_at": 1687656452472,
  "data_volumes": [],
  "description": "api-test",
  "endpoints": [
    {
      "service": "NOTEBOOK",
      "uri": "https://authoring-modelarts.huaweicloud.com/936bea3e-d3df-435e-8b58-d817283284ae/lab"
    }
  ],
  "feature": "NOTEBOOK",
  "flavor": "modelarts.vm.cpu.2u",
  "id": "936bea3e-d3df-435e-8b58-d817283284ae",
  "image": {
    "description": "",
    "id": "e1a07296-22a8-4f05-8bc8-e936c8e54090",
    "name": "notebook2.0-mul-kernel-cpu-cp36",
    "swr_path": "swr.myhuaweicloud.com/atelier/notebook2.0-mul-kernel-cpu-cp36:5.0.1-release-v2-20220505",
    "tag": "5.0.1-release-v2-20220505",
    "type": "BUILD_IN"
  },
  "lease": {
    "create_at": 1687656452470,
    "duration": 6199814,
    "enable": true,
    "type": "TIMING",
    "update_at": 1687659052284
  },
  "name": "notebooks_test",
}
```



```

"status": "STOPPING",
"tags": [],
"token": "3452e0d5-15fe-a20d-18a2-010a574aeaaf",
"update_at": 1687656479880,
"url": "https://authoring-modelarts.huaweicloud.com/936bea3e-d3df-435e-8b58-d817283284ae/lab",
"user": {
  "domain": {
    "id": "878991804cdc4ba597xxxxxxxxx9dd9",
    "name": "hwstaff_test"
  },
  "id": "99250e439b33431081xxxxxxxxxa885",
  "name": "test"
},
"user_id": "99250e439b33431081xxxxxxxxxa885",
"volume": {
  "category": "EFS",
  "ownership": "MANAGED",
  "mount_path": "/home/ma-user/work/",
  "capacity": 50,
  "read_only": false
},
"workspace_id": "0",
"billing_items": []
}

```

7. Call the API for **starting a notebook instance** to restart the instance.

a. Request body.

URI: GET `https://{ma_endpoint}/v1/{project_id}/notebooks/{id}/start`

Request header: X-auth-Token

→ ***MIIZmgYJKoZlIhvcNAQcCollizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***

Set the bold parameters based on site requirements.

b. Status code **200** is returned. The response body is as follows:

```

{
  "create_at": 1687656452472,
  "data_volumes": [],
  "description": "api-test",
  "endpoints": [
    {
      "service": "NOTEBOOK",
      "uri": "https://authoring-modelarts.huaweicloud.com/936bea3e-d3df-435e-8b58-d817283284ae/lab"
    }
  ],
  "feature": "NOTEBOOK",
  "flavor": "modelarts.vm.cpu.2u",
  "id": "936bea3e-d3df-435e-8b58-d817283284ae",
  "image": {
    "description": "",
    "id": "e1a07296-22a8-4f05-8bc8-e936c8e54090",
    "name": "notebook2.0-mul-kernel-cpu-cp36",
    "swr_path": "swr.myhuaweicloud.com/atelier/notebook2.0-mul-kernel-cpu-cp36:5.0.1-release-v2-20220505",
    "tag": "5.0.1-release-v2-20220505",
    "type": "BUILD_IN"
  },
  "lease": {
    "create_at": 1687656452470,
    "duration": 6540099,
    "enable": true,
    "type": "TIMING",
    "update_at": 1687659392569
  },
  "name": "notebooks_test",
  "status": "STARTING",
}

```

```

"tags": [],
"token": "6f773860-21d4-9fe8-75c8-a38ea13ebf08",
"update_at": 1687659203630,
"url": "https://authoring-modelarts.huaweicloud.com/936bea3e-d3df-435e-8b58-d817283284ae/lab",
"user": {
  "domain": {
    "id": "878991804cdc4ba597xxxxxxxxx9dd9",
    "name": "hwstaff_test"
  },
  "id": "99250e439b33431081xxxxxxxxxa885",
  "name": "test"
},
"user_id": "99250e439b33431081xxxxxxxxxa885",
"volume": {
  "category": "EFS",
  "ownership": "MANAGED",
  "mount_path": "/home/ma-user/work/",
  "capacity": 50,
  "read_only": false
},
"workspace_id": "0",
"billing_items": []
}

```

8. Call the API for **deleting a notebook instance** to delete the instance that is no longer needed.
 - a. Request body:

URI: DELETE `https://{ma_endpoint}/v1/{project_id}/notebooks/{id}`

Request header:

 - X-auth-Token
→ ***MIIZmgYJKoZlhvcNAQcCollZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***
 - Content-Type → application/json

Set the bold parameters based on site requirements.
 - b. Status code **200** is returned, indicating that the instance is successfully deleted.

13.2 Using PyTorch to Create a Training Job (New-Version Training)

This section describes how to train a model by calling ModelArts APIs.

Overview

The process for creating a training job using PyTorch is as follows:

1. Call the API for authentication to obtain a user token, which will be added in a request header for authentication.
2. Call the API for **obtaining general flavors supported by a training job** to obtain the required flavors.
3. Call the API for **obtaining the preset AI frameworks supported by a training job** to view the engines and their versions supported by a training job.

4. Call the API for [creating an algorithm](#) to create an algorithm and record the algorithm ID.
5. Call the API for [creating a training job](#) to create a training job using the UUID returned by the created algorithm and record the job ID.
6. Call the API for [querying details about a training job](#) to query the job status using the job ID.
7. Call the API for [querying the logs of a specified task in a training job \(OBS link\)](#) to obtain the OBS path of the training job logs.
8. Call the API for [querying the running metrics of a specified task in a training job](#) to view detailed metrics of the job.
9. Call the API for [deleting a training job](#) to delete the job if it is no longer needed.

Prerequisites

- You have obtained the endpoints of [IAM](#) and ModelArts.
- The following information is available: region where ModelArts is deployed, project ID and name, account name and ID, and username and user ID.
- The training code of PyTorch is available. For example, the startup file **test-pytorch.py** has been stored in the **obs://cnnorth4-job-test-v2/pytorch/fast_example/code/cpu** directory of OBS.
- A data file for the training job is available. For example, a training dataset has been stored in the **obs://cnnorth4-job-test-v2/pytorch/fast_example/data** directory of OBS.
- A path for outputting the training job model has been created, for example, **obs://cnnorth4-job-test-v2/pytorch/fast_example/outputs**.
- A path for outputting the training job logs has been created, for example, **obs://cnnorth4-job-test-v2/pytorch/fast_example/log**.

Procedure

1. Call the API for [authentication](#) to obtain a user token.

- a. Request body:

URI: POST `https://{iam_endpoint}/v3/auth/tokens`

Request header: Content-Type → application/json

Request body:

```
{
  "auth": {
    "identity": {
      "methods": ["password"],
      "password": {
        "user": {
          "name": "user_name",
          "password": "user_password",
          "domain": {
            "name": "domain_name"
          }
        }
      }
    },
    "scope": {
      "project": {
        "name": "ap-southeast-1"
      }
    }
  }
}
```

```
}
}
}
```

Set the following parameters based on site requirements:

- *iam_endpoint*: IAM endpoint
- **user_name**: IAM username
- **user_password**: password of the login user
- **domain_name**: account to which the user belongs
- **ap-southeast-1**: project name, which is the region where ModelArts is deployed

- b. Status code **201 Created** is returned. The **X-Subject-Token** value in the response header is the token.

x-subject-token

→ MIIZmgYJKoZlhvcNAQcCoIIzizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...

2. Call the API for **obtaining general flavors supported by a training job** to obtain the required flavors.

- a. Request body:

URI: GET https://{*ma_endpoint*}/v2/{*project_id*}/training-job-flavors?
flavor_type=CPU

Request header: X-Auth-Token

→ **MIIZmgYJKoZlhvcNAQcCoIIzizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...**

Set the following parameters based on site requirements:

- *ma_endpoint*: ModelArts endpoint
- *project_id*: user's project ID
- **X-auth-Token**: token obtained in the previous step

- b. Status code **200** is returned. The response body is as follows:

```
{
  "total_count": 2,
  "flavors": [
    {
      "flavor_id": "modelarts.vm.cpu.2u",
      "flavor_name": "Computing CPU(2U) instance",
      "flavor_type": "CPU",
      "billing": {
        "code": "modelarts.vm.cpu.2u",
        "unit_num": 1
      },
      "flavor_info": {
        "max_num": 1,
        "cpu": {
          "arch": "x86",
          "core_num": 2
        },
        "memory": {
          "size": 8,
          "unit": "GB"
        },
        "disk": {
          "size": 50,
```

```
{
  "unit": "GB"
}
},
{
  "flavor_id": "modelarts.vm.cpu.8u",
  "flavor_name": "Computing CPU(8U) instance",
  "flavor_type": "CPU",
  "billing": {
    "code": "modelarts.vm.cpu.8u",
    "unit_num": 1
  },
  "flavor_info": {
    "max_num": 16,
    "cpu": {
      "arch": "x86",
      "core_num": 8
    },
    "memory": {
      "size": 32,
      "unit": "GB"
    },
    "disk": {
      "size": 50,
      "unit": "GB"
    }
  }
}
]
```

- Select and record the flavor required for creating the training job based on the **flavor_id** value. This section uses flavor **modelarts.vm.cpu.8u** with its **max_num** set to **16** as an example.
3. Call the API for **obtaining the preset AI frameworks supported by a training job** to view the engines and their versions supported by a training job.
 - a. Request body:

URI: GET `https://{ma_endpoint}/v2/{project_id}/job/training-job-engines`

Request header:

X-Auth-Token → **MIIZmgYJKoZIHvcNAQcCoIIzizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...**

Content-Type → application/json

Set the bold parameters based on site requirements.
 - b. Status code **200** is returned. The response body is as follows (only part of the response body is displayed because there are many engines):

```
{
  "total": 28,
  "items": [
    .....
    {
      "engine_id": "mindspore_1.6.0-cann_5.0.3.6-py_3.7-euler_2.8.3-aarch64",
      "engine_name": "Ascend-Powered-Engine",
      "engine_version": "mindspore_1.6.0-cann_5.0.3.6-py_3.7-euler_2.8.3-aarch64",
      "v1_compatible": false,
      "run_user": "1000",
      "image_info": {
        "cpu_image_url": "",
        "gpu_image_url": "atelier/mindspore_1_6_0:train",
        "image_version": "mindspore_1.6.0-cann_5.0.3.6-py_3.7-euler_2.8.3-aarch64-snt9-
```

```

roma-20211231193205-33131ee"
  }
},
.....
{
  "engine_id": "pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64",
  "engine_name": "PyTorch",
  "engine_version": "pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64",
  "tags": [
    {
      "key": "auto_search",
      "value": "True"
    }
  ],
  "v1_compatible": false,
  "run_user": "1102",
  "image_info": {
    "cpu_image_url": "aip/pytorch_1_8:train",
    "gpu_image_url": "aip/pytorch_1_8:train",
    "image_version": "pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-
x86_64-20210912152543-1e0838d"
  }
},
.....
{
  "engine_id": "tensorflow_2.1.0-cuda_10.1-py_3.7-ubuntu_18.04-x86_64",
  "engine_name": "TensorFlow",
  "engine_version": "tensorflow_2.1.0-cuda_10.1-py_3.7-ubuntu_18.04-x86_64",
  "tags": [
    {
      "key": "auto_search",
      "value": "True"
    }
  ],
  "v1_compatible": false,
  "run_user": "1102",
  "image_info": {
    "cpu_image_url": "aip/tensorflow_2_1:train",
    "gpu_image_url": "aip/tensorflow_2_1:train",
    "image_version": "tensorflow_2.1.0-cuda_10.1-py_3.7-ubuntu_18.04-
x86_64-20210912152543-1e0838d"
  }
},
.....
]
}

```

Select the engine flavor required for creating a training job based on the **engine_name** and **engine_version** fields, and record the field values. This section uses the PyTorch engine as an example to describe how to create a job. In this example, the **engine_name** value is **PyTorch**, and the **engine_version** value is **pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64**.

4. Call the API for **creating an algorithm** to create an algorithm and record the algorithm ID.
 - a. Request body:

URI: POST `https://{ma_endpoint}/v2/{project_id}/algorithms`

Request header:

X-Auth-Token → **MIIZmgYJKoZlhvcNAQcCoIIzizCCGYcCAQExDTALBglghkgBZQM EAgEwgXXXXXX...**

Content-Type → application/json

Set the bold parameters based on site requirements.

Request body:

```
{
  "metadata": {
    "name": "test-pytorch-cpu",
    "description": "test pytorch job in cpu in mode gloo"
  },
  "job_config": {
    "boot_file": "/cnnorth4-job-test-v2/pytorch/fast_example/code/cpu/test-pytorch.py",
    "code_dir": "/cnnorth4-job-test-v2/pytorch/fast_example/code/cpu/",
    "engine": {
      "engine_name": "PyTorch",
      "engine_version": "pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64"
    },
    "inputs": [{
      "name": "data_url",
      "description": "Data source 1"
    }],
    "outputs": [{
      "name": "train_url",
      "description": "Output data 1"
    }],
    "parameters": [{
      "name": "dist",
      "description": "",
      "value": "False",
      "constraint": {
        "editable": true,
        "required": false,
        "sensitive": false,
        "type": "Boolean",
        "valid_range": [],
        "valid_type": "None"
      }
    }],
    {
      "name": "world_size",
      "description": "",
      "value": "1",
      "constraint": {
        "editable": true,
        "required": false,
        "sensitive": false,
        "type": "Integer",
        "valid_range": [],
        "valid_type": "None"
      }
    }
  ],
  "parameters_customization": true
},
"resource_requirements": []
}
```

Set the following parameters based on site requirements:

- **name** and **description** in the **metadata** field indicate the algorithm name and description, respectively.
- **code_dir** and **boot_file** in the **job_config** field indicate the code directory and code startup file of the algorithm, respectively. The code directory is the level-1 directory of the code startup file.
- **inputs** and **outputs** in the **job_config** field indicate the input and output of the algorithm, respectively. You can specify **data_url** and **train_url** based on the instance, and parse hyperparameters in the

code to specify the local path of the data file required for training and the local output path of the model generated during training.

- **parameters_customization** in the **job_config** field indicates whether to support custom hyperparameters. Set this parameter to **true**.
 - **parameters** in the **job_config** field indicates the hyperparameters of the algorithm. Set **name** to the hyperparameter name (a maximum of 64 characters, including uppercase letters, lowercase letters, digits, underscores (_), and hyphens (-)). Set **value** to the default value of the hyperparameter. Set **constraint** to the constraints of the hyperparameter. For example, set **type** to **String (String, Integer, Float, and Boolean are supported)**, set **editable** to **true**, and set **required** to **false**.
 - **engine** in the **job_config** field indicates the engine on which the algorithm depends. Use the **engine_name** and **engine_version** values recorded in [3](#).
- b. Status code **200 OK** is returned, indicating that the algorithm is successfully created. The response body is as follows:

```
{
  "metadata": {
    "id": "01c399ae-8593-4ef5-9e4d-085950aacde1",
    "name": "test-pytorch-cpu",
    "description": "test pytorch job in cpu in mode gloo",
    "create_time": 1641890623262,
    "workspace_id": "0",
    "ai_project": "default-ai-project",
    "user_name": "",
    "domain_id": "0659fbf6de00109b0ff1c01fc037d240",
    "source": "custom",
    "api_version": "",
    "is_valid": true,
    "state": "",
    "size": 4790,
    "tags": null,
    "attr_list": null,
    "version_num": 0,
    "update_time": 0
  },
  "share_info": {},
  "job_config": {
    "code_dir": "/cnnorth4-job-test-v2/pytorch/fast_example/code/cpu/",
    "boot_file": "/cnnorth4-job-test-v2/pytorch/fast_example/code/cpu/test-pytorch.py",
    "parameters": [
      {
        "name": "dist",
        "description": "",
        "i18n_description": null,
        "value": "False",
        "constraint": {
          "type": "Boolean",
          "editable": true,
          "required": false,
          "sensitive": false,
          "valid_type": "None",
          "valid_range": []
        }
      },
      {
        "name": "world_size",
        "description": "",
        "i18n_description": null,
        "value": "1",

```



```

    "constraint": {
      "type": "Integer",
      "editable": true,
      "required": false,
      "sensitive": false,
      "valid_type": "None",
      "valid_range": []
    }
  ],
  "parameters_customization": true,
  "inputs": [
    {
      "name": "data_url",
      "description": "Data source 1"
    }
  ],
  "outputs": [
    {
      "name": "train_url",
      "description": "Output data 1"
    }
  ],
  "engine": {
    "engine_id": "pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64",
    "engine_name": "PyTorch",
    "engine_version": "pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64",
    "tags": [
      {
        "key": "auto_search",
        "value": "True"
      }
    ],
    "v1_compatible": false,
    "run_user": "1102",
    "image_info": {
      "cpu_image_url": "aip/pytorch_1_8:train",
      "gpu_image_url": "aip/pytorch_1_8:train",
      "image_version": "pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64-20210912152543-1e0838d"
    }
  },
  "code_tree": {
    "name": "cpu/",
    "children": [
      {
        "name": "test-pytorch.py"
      }
    ]
  }
},
"resource_requirements": [],
"advanced_config": {}
}

```

Record the value of **id** (algorithm ID, 32-bit UUID) in the **metadata** field for subsequent steps.

5. Call the API for **creating a training job** to create a training job using the UUID returned by the created algorithm and record the job ID.

- a. Request body:

URI: POST `https://{ma_endpoint}/v2/{project_id}/training-jobs`

Request header:

- X-Auth-Token
→ ***MIIZmgYJKoZlhvcNAQcColIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***

- Content-Type → application/json

Set the bold parameters based on site requirements.

Request body:

```
{
  "kind": "job",
  "metadata": {
    "name": "test-pytorch-cpu01",
    "description": "test pytorch work cpu in mode gloo"
  },
  "algorithm": {
    "id": "01c399ae-8593-4ef5-9e4d-085950aacde1",
    "parameters": [{
      "name": "dist",
      "value": "False"
    },
    {
      "name": "world_size",
      "value": "1"
    }
  ],
  "inputs": [{
    "name": "data_url",
    "remote": {
      "obs": {
        "obs_url": "/cnnorth4-job-test-v2/pytorch/fast_example/data/"
      }
    }
  }],
  "outputs": [{
    "name": "train_url",
    "remote": {
      "obs": {
        "obs_url": "/cnnorth4-job-test-v2/pytorch/fast_example/outputs/"
      }
    }
  }
  ]
},
"spec": {
  "resource": {
    "flavor_id": "modelarts.vm.cpu.8u",
    "node_count": 1
  },
  "log_export_path": {
    "obs_url": "/cnnorth4-job-test-v2/pytorch/fast_example/log/"
  }
}
}
```

Set the following parameters based on site requirements:

- Set **kind** to the type of the training job. The default value is **job**.
- Set **name** and **description** in the **metadata** field to the name and description of the training job.
- Set **id** in the **algorithm** field to the algorithm ID obtained in [4](#).
- Set **inputs** and **outputs** in the **algorithm** field to the information about the input and output URLs of the training job. In this example, **obs_url** in **remote** of the **inputs** parameter indicates the OBS path for selecting the training data from the OBS bucket. **obs_url** in **remote** of the **outputs** parameter indicates the OBS path for storing the training output.

- Set **flavor_id** in the **spec** field to the flavor on which the training job depends. Use the **flavor_id** recorded in [2. node_count](#) indicates whether to use multi-node training (distributed training). Set it to **1** for a single-node training by default. **log_export_path** specifies the OBS path to which logs are uploaded.
- b. Status code **201 Created** is returned, indicating that the training job has been created. The response body is as follows:

```
{
  "kind": "job",
  "metadata": {
    "id": "66ff6991-fd66-40b6-8101-0829a46d3731",
    "name": "test-pytorch-cpu01",
    "description": "test pytorch work cpu in mode gloo",
    "create_time": 1641892642625,
    "workspace_id": "0",
    "ai_project": "default-ai-project",
    "user_name": "",
    "annotations": {
      "job_template": "Template DL",
      "key_task": "worker"
    }
  },
  "status": {
    "phase": "Creating",
    "secondary_phase": "Creating",
    "duration": 0,
    "start_time": 0,
    "node_count_metrics": null,
    "tasks": [
      "worker-0"
    ]
  },
  "algorithm": {
    "id": "01c399ae-8593-4ef5-9e4d-085950aacde1",
    "name": "test-pytorch-cpu",
    "code_dir": "/cnnorth4-job-test-v2/pytorch/fast_example/code/cpu/",
    "boot_file": "/cnnorth4-job-test-v2/pytorch/fast_example/code/cpu/test-pytorch.py",
    "parameters": [
      {
        "name": "dist",
        "description": "",
        "i18n_description": null,
        "value": "False",
        "constraint": {
          "type": "Boolean",
          "editable": true,
          "required": false,
          "sensitive": false,
          "valid_type": "None",
          "valid_range": []
        }
      },
      {
        "name": "world_size",
        "description": "",
        "i18n_description": null,
        "value": "1",
        "constraint": {
          "type": "Integer",
          "editable": true,
          "required": false,
          "sensitive": false,
          "valid_type": "None",
          "valid_range": []
        }
      }
    ]
  }
}
```

```

],
"parameters_customization": true,
"inputs": [
  {
    "name": "data_url",
    "description": "Data source 1",
    "local_dir": "/home/ma-user/modelarts/inputs/data_url_0",
    "remote": {
      "obs": {
        "obs_url": "/cnnorth4-job-test-v2/pytorch/fast_example/data/"
      }
    }
  }
],
"outputs": [
  {
    "name": "train_url",
    "description": "Output data 1",
    "local_dir": "/home/ma-user/modelarts/outputs/train_url_0",
    "remote": {
      "obs": {
        "obs_url": "/cnnorth4-job-test-v2/pytorch/fast_example/outputs/"
      }
    },
    "mode": "upload_periodically",
    "period": 30
  }
],
"engine": {
  "engine_id": "pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64",
  "engine_name": "PyTorch",
  "engine_version": "pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64",
  "usage": "training",
  "support_groups": "public",
  "tags": [
    {
      "key": "auto_search",
      "value": "True"
    }
  ]
},
"v1_compatible": false,
"run_user": "1102"
}
},
"spec": {
  "resource": {
    "flavor_id": "modelarts.vm.cpu.8u",
    "flavor_name": "Computing CPU(8U) instance",
    "node_count": 1,
    "flavor_detail": {
      "flavor_type": "CPU",
      "billing": {
        "code": "modelarts.vm.cpu.8u",
        "unit_num": 1
      }
    },
    "flavor_info": {
      "cpu": {
        "arch": "x86",
        "core_num": 8
      },
      "memory": {
        "size": 32,
        "unit": "GB"
      },
      "disk": {
        "size": 50,
        "unit": "GB"
      }
    }
  }
}

```

```

    }
  },
  "log_export_path": {
    "obs_url": "/cnnorth4-job-test-v2/pytorch/fast_example/log/"
  },
  "is_hosted_log": true
}
}

```

- Record the **id** value (training job ID) in the **metadata** field for subsequent steps.
 - **phase** and **secondary_phase** under **Status** indicate the status and next status of the training job, respectively. In the example, **Creating** indicates that the training job is being created.
6. Call the API for [querying details about a training job](#) to query the job status using the job ID.

- a. Request body:

URI: GET `https://{ma_endpoint}/v2/{project_id}/training-jobs/{training_job_id}`

Request header: X-Auth-Token

→ `MIIZmgYJKoZlhvcNAQcCollZizCCGYcCAQExDTALBgIghkgBZQMEAgEwgXXXXXX...`

Set the following parameter based on site requirements:

Set **training_job_id** to the training job ID recorded in [5](#).

- b. Status code **200 OK** is returned. The response body is as follows:

```

{
  "kind": "job",
  "metadata": {
    "id": "66ff6991-fd66-40b6-8101-0829a46d3731",
    "name": "test-pytorch-cpu01",
    "description": "test pytorch work cpu in mode gloo",
    "create_time": 1641892642625,
    "workspace_id": "0",
    "ai_project": "default-ai-project",
    "user_name": "hwstaff_z00424192",
    "annotations": {
      "job_template": "Template DL",
      "key_task": "worker"
    }
  },
  "status": {
    "phase": "Running",
    "secondary_phase": "Running",
    "duration": 268000,
    "start_time": 1641892655000,
    "node_count_metrics": [
      [
        1641892645000,
        0
      ],
      [
        1641892654000,
        0
      ],
      [
        1641892655000,
        1
      ],
      [
        1641892922000,
        1
      ]
    ]
  }
}

```

```

    ],
    [
      1641892923000,
      1
    ]
  ],
  "tasks": [
    "worker-0"
  ]
},
"algorithm": {
  "id": "01c399ae-8593-4ef5-9e4d-085950aacde1",
  "name": "test-pytorch-cpu",
  "code_dir": "/cnnorth4-job-test-v2/pytorch/fast_example/code/cpu/",
  "boot_file": "/cnnorth4-job-test-v2/pytorch/fast_example/code/cpu/test-pytorch.py",
  "parameters": [
    {
      "name": "dist",
      "description": "",
      "i18n_description": null,
      "value": "False",
      "constraint": {
        "type": "Boolean",
        "editable": true,
        "required": false,
        "sensitive": false,
        "valid_type": "None",
        "valid_range": []
      }
    },
    {
      "name": "world_size",
      "description": "",
      "i18n_description": null,
      "value": "1",
      "constraint": {
        "type": "Integer",
        "editable": true,
        "required": false,
        "sensitive": false,
        "valid_type": "None",
        "valid_range": []
      }
    }
  ],
  "parameters_customization": true,
  "inputs": [
    {
      "name": "data_url",
      "description": "Data source 1",
      "local_dir": "/home/ma-user/modelarts/inputs/data_url_0",
      "remote": {
        "obs": {
          "obs_url": "/cnnorth4-job-test-v2/pytorch/fast_example/data/"
        }
      }
    }
  ],
  "outputs": [
    {
      "name": "train_url",
      "description": "Output data 1",
      "local_dir": "/home/ma-user/modelarts/outputs/train_url_0",
      "remote": {
        "obs": {
          "obs_url": "/cnnorth4-job-test-v2/pytorch/fast_example/outputs/"
        }
      },
      "mode": "upload_periodically",

```

```
    "period": 30
  }
],
"engine": {
  "engine_id": "pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64",
  "engine_name": "PyTorch",
  "engine_version": "pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64",
  "usage": "training",
  "support_groups": "public",
  "tags": [
    {
      "key": "auto_search",
      "value": "True"
    }
  ],
  "v1_compatible": false,
  "run_user": "1102"
}
},
"spec": {
  "resource": {
    "flavor_id": "modelarts.vm.cpu.8u",
    "flavor_name": "Computing CPU(8U) instance",
    "node_count": 1,
    "flavor_detail": {
      "flavor_type": "CPU",
      "billing": {
        "code": "modelarts.vm.cpu.8u",
        "unit_num": 1
      },
      "flavor_info": {
        "cpu": {
          "arch": "x86",
          "core_num": 8
        },
        "memory": {
          "size": 32,
          "unit": "GB"
        },
        "disk": {
          "size": 50,
          "unit": "GB"
        }
      }
    }
  },
  "log_export_path": {
    "obs_url": "/cnnorth4-job-test-v2/pytorch/fast_example/log/"
  },
  "is_hosted_log": true
}
}
```

You can learn about the version details of the training job based on the response. The **status** value is **Running**, indicating that the training job is running.

7. Call the API for [querying the logs of a specified task in a training job \(OBS link\)](#) to obtain the OBS path of the training job logs.

- a. Request body:

URI format: GET `https://{ma_endpoint}/v2/{project_id}/training-jobs/{training_job_id}/tasks/{task_id}/logs/url`

Request header:

X-Auth-

Token → ***MIIZmgYJKoZIHvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQM EAgEwgXXXXXX...***

Content-Type → **text/plain**

Set the following parameters based on site requirements:

- **task_id** indicates the name of the training job. Generally, set it to **work-0**.
- **Content-Type** can be set either to **text/plain** or **application/octet-stream**. **text/plain** indicates that a temporary OBS preview URL is returned. **application/octet-stream** indicates that a temporary OBS download URL is returned.

- b. Status code **200 OK** is returned. The response body is as follows:

```
{
  "obs_url": "https://modelarts-training-log-cn-north-4.obs.cn-
north-4.myhuaweicloud.com:443/66ff6991-fd66-40b6-8101-0829a46d3731/worker-0/modelarts-
job-66ff6991-fd66-40b6-8101-0829a46d3731-worker-0.log?
AWSAccessKeyId=GFGTBKOZENDD83QEMZMV&Expires=1641896599&Signature=BedFZHEU1oC
mqlI912UL9mXlhkg%3D"
}
```

The returned field indicates the OBS path of logs. You can copy the value to the browser to view the result.

8. Call the API for **querying the running metrics of a specified task in a training job** to view detailed metrics of the job.

- a. Request body:

URI format: GET https://{ma_endpoint}/v2/{project_id}/training-jobs/{training_job_id}/metrics/{task_id}

Request header: X-Auth-Token

→ **MIIZmgYJKoZlhvcNAQcCollZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...**

Set the bold parameters based on site requirements.

- b. Status code **200 OK** is returned. The response body is as follows:

```
{
  "metrics": [
    {
      "metric": "cpuUsage",
      "value": [
        -1,
        -1,
        28.622,
        35.053,
        39.988,
        40.069,
        40.082,
        40.094
      ]
    },
    {
      "metric": "memUsage",
      "value": [
        -1,
        -1,
        0.544,
        0.641,
        0.736,
        0.737,
        0.738,
        0.739
      ]
    }
  ]
}
```



```

    "metric": "npuUtil",
    "value": [
      -1,
      -1,
      -1,
      -1,
      -1,
      -1,
      -1,
      -1
    ]
  },
  {
    "metric": "npuMemUsage",
    "value": [
      -1,
      -1,
      -1,
      -1,
      -1,
      -1,
      -1,
      -1
    ]
  },
  {
    "metric": "gpuUtil",
    "value": [
      -1,
      -1,
      -1,
      -1,
      -1,
      -1,
      -1,
      -1
    ]
  },
  {
    "metric": "gpuMemUsage",
    "value": [
      -1,
      -1,
      -1,
      -1,
      -1,
      -1,
      -1,
      -1
    ]
  }
]
}

```

You can view the metrics such as the CPU usage.

9. Call the API for **deleting a training job** to delete the job if it is no longer needed.

- a. Request body:

URI: DELETE `https://{ma_endpoint}/v2/{project_id}/training-jobs/{training_job_id}`

Request header: X-Auth-Token

→ **MIIZmgYJKoZlIhvcNAQcCoIIzizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...**

Set the bold parameters based on site requirements.

- b. Status code **202 No Content** is returned, indicating that the job is successfully deleted.

13.3 Managing ModelArts Authorization

This section describes how to manage agency authorization by calling ModelArts APIs.

Overview

The process of managing ModelArts authorization is as follows:

1. Call the API for **authentication** to obtain a user token, which will be added in a request header for authentication.
2. Call the API for **creating a ModelArts agency** to create an agency for ModelArts-dependent services, such as OBS and SWR.
3. Call the API for **configuring authorization** to configure ModelArts authorization. The administrator can use this API to set an agency for IAM users and set the access key of the current user.

NOTE

ModelArts functions, such as data management, training management, development environment, and real-time services, can be used only after being authorized.

4. Call the API for **obtaining the authorization list** to view the authorization.
5. Call the API for **deleting authorization** to delete the authorization of a specified user or all users.

Prerequisites

- You have obtained the **IAM endpoint** and **ModelArts endpoint**.
- The following information is available: region where ModelArts is deployed, **project name and ID**, **account name and ID**, and **username and ID**.

Procedure

1. Call the API for **authentication** to obtain a user token.

- a. Request body:

URI: POST `https://{iam_endpoint}/v3/auth/tokens`

Request header: Content-Type → application/json

Request body:

```
{
  "auth": {
    "identity": {
      "methods": ["password"],
      "password": {
        "user": {
          "name": "user_name",
          "password": "user_password",
          "domain": {
            "name": "domain_name"
          }
        }
      }
    }
  }
}
```

```

},
"scope": {
  "project": {
    "name": "ap-southeast-1"
  }
}
}
}
}

```

Set the italic parameters based on site requirements.

- *iam_endpoint*: IAM endpoint
 - *user_name*: IAM username
 - *user_password*: Login password of the user
 - *domain_name*: Account to which the user belongs
 - *ap-southeast-1*: Project name, which is the region where ModelArts is deployed
- b. Status code **201 Created** is returned. The **X-Subject-Token** value in the response header is the token.

```

x-subject-token →
MIIZmgYJKoZlHvcNAQcColIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...

```

2. Call the API for [creating a ModelArts agency](#) to create an agency for ModelArts-dependent services, such as OBS, SWR, and IEF.

- a. Request body:

URI: POST `https://{endpoint}/v2/{project_id}/agency`

Request header:

- X-auth-Token
→ *MIIZmgYJKoZlHvcNAQcColIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...*
- Content-Type → application/json

Request body:

```

{
  "agency_name_suffix" : "iam-user01"
}

```

Set the italic parameters based on site requirements.

- *endpoint*: ModelArts endpoint
 - *project_id*: Your project ID
 - **X-auth-Token**: Token obtained in the previous step
 - **agency_name_suffix**: Customized suffix of the agency name
- b. Response body with status code **200 OK** returned (indicating that **ma_agency_iam-user01** has been created):

```

{
  "agency_name": "ma_agency_iam-user01"
}

```

3. Call the API for [configuring authorization](#) to configure ModelArts authorization. The administrator can use this API to set an agency for IAM users and set the access key of the current user.

a. Request body:

URI: POST `https://{endpoint}/v2/{project_id}/authorizations`

Request header:

- X-auth-Token
→ *MIIZmgYJKoZlhvcNAQcCollZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...*
- Content-Type → application/json

Request body:

```
{
  "user_id": "****af917080f5d21f55c018ba19****",
  "type": "agency",
  "content": "ma_agency_iam-user01"
}
```

Set the italic parameters based on site requirements. Set **user_id** to the IAM user ID and **content** to the ModelArts agency created in the previous step.

b. Response body with status code **200 OK** returned (indicating that the authorization configuration is complete):

```
{
  "result": true
}
```

4. Call the API for **obtaining the authorization list** to view the authorization.

a. Request body:

URI: GET `https://{endpoint}/v2/{project_id}/authorizations`

Request header: X-auth-Token

→ *MIIZmgYJKoZlhvcNAQcCollZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...*

Set the italic parameters based on site requirements.

b. Response body with status code **200 OK** returned:

```
{
  "auth": [
    {
      "create_time": 1622804433221,
      "user_id": "all-users",
      "user_name": "all-users",
      "type": "agency",
      "content": "modelarts_agency"
    },
    {
      "create_time": 1625457065365,
      "user_id": "****af917080f5d21f55c018ba19****",
      "user_name": null,
      "type": "agency",
      "content": "ma_agency_iam-user01"
    }
  ],
  "total_count": 2
}
```

Obtain the authorization information based on the response.

5. Call the API for **deleting authorization** to delete the authorization of a specified user or all users.

a. Request body:

URI: DELETE `https://{endpoint}/v2/{project_id}/authorizations?user_id=****d80fb058844ae8b82aa66d9fe****`

Request header: X-auth-Token

→ *MIIZmgYJKoZlhvcNAQcCollZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...*

Set the italic parameters based on site requirements. Set

****d80fb058844ae8b82aa66d9fe**** to the IAM user ID of the specified user.

- b. Response body with status code **200 OK** returned (indicating that the authorization has been deleted):

```
{  
  "result": true  
}
```

- c. If **user_id** is set to **all-users**, the authorization of all IAM users will be deleted. Response body with status code **200 OK** returned (indicating that the authorization has been deleted):

```
{  
  "result": true,  
  "success_message": "Delete all-users auth info successfully!"  
}
```

14 Permissions Policies and Supported Actions

14.1 Introduction

This section describes fine-grained permissions management for your ModelArts. If your HUAWEI CLOUD account does not require individual IAM users, skip this section.

By default, new IAM users do not have permissions assigned. You need to add a user to one or more groups, and attach permissions policies or roles to these groups. Users inherit permissions from the groups to which they are added and can perform specified operations on cloud services based on the permissions.

You can grant users permissions by using [roles](#) and [policies](#). Roles are a type of coarse-grained authorization mechanism that defines permissions related to user responsibilities. Policies define API-based permissions for operations on specific resources under certain conditions, allowing for more fine-grained, secure access control of cloud resources.

NOTE

Policy-based authorization is useful if you want to allow or deny the access to an API.

An account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions. The permissions required for calling an API are determined by the actions supported by the API. Only users who have been granted permissions allowing the actions can call the API successfully. For example, if an IAM user wants to query ECSs using an API, the user must have been granted permissions that allow the **modelarts:notebook:create** action.

Supported Actions

ModelArts provides system-defined policies that can be directly used in IAM. You can also create custom policies and use them to supplement system-defined policies, implementing more refined access control. Operations supported by policies are specific to APIs. The following are common concepts related to policies:

- Permissions: Statements in a policy that allow or deny certain operations.
- APIs: RESTful APIs that can be called in a custom policy.
- Actions: Specific operations that are allowed or denied.
- Related actions: Actions on which a specific action depends to take effect. When assigning permissions for the action to a user, you also need to assign permissions for the related actions.
- IAM or enterprise projects: Type of projects for which an action will take effect. Policies that contain actions for both IAM and enterprise projects can be used and take effect for both IAM and Enterprise Management. Policies that only contain actions for IAM projects can be used and only take effect for IAM. For details about the differences between IAM and enterprise projects, see [Differences Between IAM and Enterprise Management](#).

 NOTE

The check mark (√) and cross symbol (x) indicate that an action takes effect or does not take effect for the corresponding type of projects.

14.2 Data Management Permissions

Table 14-1 Fine-grained permissions for dataset management

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying the Dataset List	GET /v2/{project_id}/datasets	modelarts:dataset:listDatasets	N/A	√	√
Creating a Dataset	POST /v2/{project_id}/datasets	modelarts:dataset:createDataset	obs:bucket:HeadBucket obs:bucket:ListBucket obs:object:PutObject obs:object:PutObject obs:bucket:ListAllMyBuckets	√	√
Querying Details About a Dataset	GET /v2/{project_id}/datasets/{dataset_id}	modelarts:dataset:getDataset	N/A	√	√
Modifying a Dataset	PUT /v2/{project_id}/datasets/{dataset_id}	modelarts:dataset:updateDataset	N/A	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Deleting a Dataset	DELETE /v2/{project_id}/datasets/{dataset_id}	modelarts:dataset:deleteDataset	obs:bucket:ListAllMyBuckets obs:bucket:ListBucket obs:object:DeleteObject	√	√
Querying Dataset Statistics	GET /v2/{project_id}/datasets/{dataset_id}/data-annotations/stats	modelarts:dataset:getDataset	N/A	√	√
Querying the Monitoring Data of a Dataset	GET /v2/{project_id}/datasets/{dataset_id}/metrics	modelarts:dataset:getDataset	N/A	√	√
Querying Statistics for a Team Labeling Task	GET /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/data-annotations/stats	modelarts:dataset:getWorkforceTask	N/A	√	√
Querying Statistics for the Member Labeling Progresses in a Team Labeling Task	GET /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/metrics	modelarts:dataset:getWorkforceTask	N/A	√	√

Table 14-2 Fine-grained permissions for dataset version management

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying the Dataset Version List	GET /v2/{project_id}/datasets/{dataset_id}/versions	modelarts:dataset:getDataset	N/A	√	√
Creating a Dataset Labeling Version	POST /v2/{project_id}/datasets/{dataset_id}/versions	modelarts:dataset:createDatasetVersion	obs:object:PutObject	√	√
Querying Details About a Dataset Version	GET /v2/{project_id}/datasets/{dataset_id}/versions/{version_id}	modelarts:dataset:getDataset	N/A	√	√
Deleting a Dataset Labeling Version	DELETE /v2/{project_id}/datasets/{dataset_id}/versions/{version_id}	modelarts:dataset:deleteDatasetVersion	obs:bucket:ListAllMyBuckets obs:bucket:ListBucket obs:object:DeleteObject	√	√

Table 14-3 Fine-grained permissions for sample management

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying the Sample List	GET /v2/{project_id}/datasets/{dataset_id}/data-annotations/samples	modelarts:sample:listSamples	obs:object:GetObject	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Adding Samples in Batches	POST /v2/{project_id}/datasets/{dataset_id}/data-annotations/samples	modelarts:sample:addSamples	obs:object:PutObject	√	√
Deleting Samples in Batches	POST /v2/{project_id}/datasets/{dataset_id}/data-annotations/samples/delete	modelarts:sample:deleteSamples	obs:object:DeleteObject	√	√
Querying Details About a Sample	GET /v2/{project_id}/datasets/{dataset_id}/data-annotations/samples/{sample_id}	modelarts:sample:getSample	obs:object:GetObject	√	√
Querying Sample Search Criteria	GET /v2/{project_id}/datasets/{dataset_id}/data-annotations/search-condition	modelarts:sample:listSamples	N/A	√	√
Querying the Sample List of a Team Labeling Task by Page	GET /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/data-annotations/samples	modelarts:sample:listSamples	obs:object:GetObject	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying Details About a Team Labeling Sample	GET /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/data-annotations/samples/{sample_id}	modelarts:sample:getSample	obs:object:GetObject	√	√

Table 14-4 Fine-grained permissions for label management

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying the Dataset Label List	GET /v2/{project_id}/datasets/{dataset_id}/data-annotations/labels	modelarts:dataset:getDataset	N/A	√	√
Creating a Dataset Label	POST /v2/{project_id}/datasets/{dataset_id}/data-annotations/labels	modelarts:dataset:updateDataset	N/A	√	√
Modifying Labels in Batches	PUT /v2/{project_id}/datasets/{dataset_id}/data-annotations/labels	modelarts:dataset:updateDataset	N/A	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Deleting Labels in Batches	POST /v2/{project_id}/datasets/{dataset_id}/data-annotations/labels/delete	modelarts:dataset:updateDataset	N/A	√	√
Updating a Label by Label Name	PUT /v2/{project_id}/datasets/{dataset_id}/data-annotations/labels/{label_name}	modelarts:dataset:updateDataset	N/A	√	√
Deleting a Label and the Files with This Label Only	DELETE /v2/{project_id}/datasets/{dataset_id}/data-annotations/labels/{label_name}	modelarts:dataset:updateDataset	obs:object:DeleteObject	√	√

Table 14-5 Fine-grained permissions for manual labeling

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Updating Sample Labels in Batches	PUT /v2/{project_id}/datasets/{dataset_id}/data-annotations/samples	modelarts:dataset:updateDataset	obs:object:GetObject	√	√

Table 14-6 Fine-grained permissions for labeling task management

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying the Team Labeling Task List of a Dataset	GET /v2/{project_id}/datasets/{dataset_id}/workforce-tasks	modelarts:dataset:listWorkforceTasks	N/A	√	√
Creating a Team Labeling Task	POST /v2/{project_id}/datasets/{dataset_id}/workforce-tasks	modelarts:dataset:createWorkforceTask	N/A	√	√
Querying Details About a Team Labeling Task	GET /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}	modelarts:dataset:getWorkforceTask	N/A	√	√
Starting a Team Labeling Task	POST /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/acceptance	modelarts:dataset:updateWorkforceTask	N/A	√	√
Updating a Team Labeling Task	PUT /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}	modelarts:dataset:updateWorkforceTask	N/A	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Deleting a Team Labeling Task	DELETE /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}	modelarts:dataset:deleteWorkforceTask	N/A	√	√
Creating a Team Labeling Acceptance Task	POST /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/acceptance	modelarts:dataset:updateWorkforceTask	N/A	√	√
Querying the Acceptance Report of a Team Labeling Task	GET /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/acceptance/report	modelarts:dataset:getWorkforceTask	N/A	√	√
Updating the Status of a Team Labeling Acceptance Task	PUT /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/acceptance/status	modelarts:dataset:updateWorkforceTask	N/A	√	√

Table 14-7 Fine-grained permissions for team labeling flow management

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Submitting Sample Review Comments for Acceptance	POST /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/acceptance/batch-comment	modelarts:dataset:updateWorkforceTask	N/A	√	√
Updating Labels of Team Labeling Samples in Batches	PUT /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/data-annotations/samples	modelarts:dataset:updateWorkforceTask	N/A	√	√

Table 14-8 Fine-grained permissions for labeling team management

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying the Labeling Team List	GET /v2/{project_id}/workforces	modelarts:processTask:listWorkforce	N/A	√	√
Creating a Labeling Team	POST /v2/{project_id}/workforces	modelarts:processTask:createWorkforce	N/A	√	√
Querying Details About a Labeling Team	GET /v2/{project_id}/workforces/{workforce_id}	modelarts:processTask:getWorkforce	N/A	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Updating a Labeling Team	PUT /v2/{project_id}/workforces/{workforce_id}	modelarts:processTask:updateWorkforce	N/A	√	√
Deleting a Labeling Team	DELETE /v2/{project_id}/workforces/{workforce_id}/workers/{worker_id}	modelarts:processTask:updateWorkforce	N/A	√	√

Table 14-9 Fine-grained permissions for labeling team member management

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Sending an Email to Labeling Team Members	POST /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/notify	modelarts:dataset:updateWorkforceTask	N/A	√	√
Querying All Labeling Team Members	GET /v2/{project_id}/workforces/workers	modelarts:processTask:getWorkforce	N/A	√	√
Querying Members in a Labeling Team	GET /v2/{project_id}/workforces/{workforce_id}/workers	modelarts:processTask:getWorkforce	N/A	√	√
Creating a Labeling Team Member	POST /v2/{project_id}/workforces/{workforce_id}/workers	modelarts:processTask:updateWorkforce	N/A	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Deleting Labeling Team Members in Batches	POST /v2/{project_id}/workforces/{workforce_id}/workers/batch-delete	modelarts:processTask:updateWorkforce	N/A	√	√
Querying Details About a Labeling Team Member	GET /v2/{project_id}/workforces/{workforce_id}/workers/{worker_id}	modelarts:processTask:getWorkforce	N/A	√	√
Updating Labeling Team Members	PUT /v2/{project_id}/workforces/{workforce_id}/workers/{worker_id}	modelarts:processTask:updateWorkforce	N/A	√	√
Deleting a Labeling Team Member	DELETE /v2/{project_id}/workforces/{workforce_id}/workers/{worker_id}	modelarts:processTask:updateWorkforce	N/A	√	√

Table 14-10 Fine-grained permissions for data import tasks

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying the Dataset Import Task List	GET /v2/{project_id}/datasets/{dataset_id}/import-tasks	modelarts:dataset:getDataset	N/A	√	√
Creating a Dataset Import Task	POST /v2/{project_id}/datasets/{dataset_id}/import-tasks	modelarts:dataset:createImportTask	N/A	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying Details About a Dataset Import Task	GET /v2/{project_id}/datasets/{dataset_id}/import-tasks/{task_id}	modelarts:dataset:getDataset	N/A	√	√

Table 14-11 Fine-grained permissions for data export tasks

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying the Dataset Export Task List	GET /v2/{project_id}/datasets/{dataset_id}/export-tasks	modelarts:dataset:getDataset	N/A	√	√
Creating a Dataset Export Task	POST /v2/{project_id}/datasets/{dataset_id}/export-tasks	modelarts:dataset:createExportTask	N/A	√	√
Querying the Status of a Dataset Export Task	GET /v2/{project_id}/datasets/{resource_id}/export-tasks/{task_id}	modelarts:dataset:getDataset	N/A	√	√

Table 14-12 Fine-grained permissions for data synchronization tasks

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Synchronizing a Dataset	POST /v2/{project_id}/datasets/{dataset_id}/sync-data	modelarts:dataset:updateDataset	obs:bucket:ListBucket obs:bucket:ListAllMyBuckets	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying the Status of a Dataset Synchronization Task	GET /v2/{project_id}/datasets/{dataset_id}/sync-data/status	modelarts:dataset:getDataset	N/A	√	√

Table 14-13 Fine-grained permissions for auto labeling tasks

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying the Auto Labeling Sample List	GET /v2/{project_id}/datasets/{dataset_id}/auto-annotations/samples	modelarts:samples:listSamples	obs:object:GetObject	√	√
Querying Details About an Auto Labeling Sample	GET /v2/{project_id}/datasets/{dataset_id}/auto-annotations/samples/{sample_id}	modelarts:samples:getSample	obs:object:GetObject	√	√
Querying Auto Labeling Tasks by Page	GET /v2/{project_id}/datasets/{dataset_id}/tasks	modelarts:dataset:getDataset	N/A	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Starting an Auto Labeling Task	POST /v2/{project_id}/datasets/{dataset_id}/tasks	modelarts:dataset:updateDataset	obs:bucket:PutBucketAcl obs:bucket:GetBucketAcl obs:bucket:GetBucketPolicy obs:bucket>DeleteBucketPolicy obs:bucket:ListBucket obs:bucket:ListAllMyBuckets obs:object:DeleteObject obs:bucket:ListBucketVersions	√	√
Querying Details About an Auto Labeling Task	GET /v2/{project_id}/datasets/{dataset_id}/tasks/{task_id}	modelarts:dataset:getDataset	N/A	√	√
Stopping an Auto Labeling Task	POST /v2/{project_id}/datasets/{dataset_id}/tasks/{task_id}/stop	modelarts:dataset:updateDataset	N/A	√	√

Table 14-14 Fine-grained permissions for data processing tasks

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying the Data Processing Task List	GET /v2/{project_id}/processor-tasks	modelarts:processTask:listProcessTasks	N/A	√	√
Creating a Data Processing Task	POST /v2/{project_id}/processor-tasks	modelarts:processTask:createProcessTask	obs:bucket:HeadBucket obs:bucket:ListBucket obs:object:PutObject obs:object:PutObject obs:bucket:ListAllMyBuckets obs:bucket:PutBucketAcl obs:bucket:GetBucketAcl obs:bucket:GetBucketPolicy obs:bucket>DeleteBucketPolicy	√	√
Querying the Algorithms for a Data Processing Type	GET /v2/{project_id}/processor-tasks/items	modelarts:processTask:getProcessTask	N/A	√	√
Querying Details About a Data Processing Task	GET /v2/{project_id}/processor-tasks/{task_id}/versions/{version_id}	modelarts:processTask:getProcessTask	N/A	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Updating a Data Processing Task	PUT /v2/{project_id}/processor-tasks/{task_id}	modelarts:processTask:updateProcessTask	N/A	√	√
Deleting a Data Processing Task	DELETE /v2/{project_id}/processor-tasks/{task_id}	modelarts:processTask:deleteProcessTask	obs:bucket:PutBucketAcl obs:bucket:GetBucketAcl obs:bucket:GetBucketPolicy obs:bucket>DeleteBucketPolicy obs:bucket:ListBucket obs:bucket>ListAllMyBuckets obs:object:DeleteObject	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying the Versions of a Data Processing Task	GET /v2/{project_id}/processor-tasks/{task_id}/versions	modelarts:processTask:getProcessTask	obs:bucket:HeadBucket obs:bucket:ListBucket obs:object:PutObject obs:object:PutObject obs:bucket:ListAllMyBuckets obs:bucket:PutBucketAcl obs:bucket:GetBucketAcl obs:bucket:GetBucketPolicy obs:bucket>DeleteBucketPolicy	√	√
Creating a Data Processing Task Version	POST /v2/{project_id}/processor-tasks/{task_id}/versions	modelarts:processTask:createProcessTask	N/A	√	√
Querying Details About a Data Processing Task Version	GET /v2/{project_id}/processor-tasks/{task_id}/versions	modelarts:processTask:getProcessTask	N/A	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Deleting a Data Processing Task Version	DELETE /v2/{project_id}/processor-tasks/{task_id}/versions/{version_id}	modelarts:processTask:deleteProcessTask	obs:bucket:PutBucketACL obs:bucket:GetBucketACL obs:bucket:GetBucketPolicy obs:bucket>DeleteBucketPolicy obs:bucket:ListBucket obs:bucket:ListAllMyBuckets obs:object:DeleteObject	√	√
Querying the Result of a Data Processing Task Version	GET /v2/{project_id}/processor-tasks/{task_id}/versions/{version_id}/results	modelarts:processTask:getProcessTask	obs:object:GetObject	√	√
Stopping a Data Processing Task Version	POST /v2/{project_id}/processor-tasks/{task_id}/versions/{version_id}/stop	modelarts:processTask:updateProcessTask	N/A	√	√

14.3 DevEnviron Permissions (New Version)

Table 14-15 Fine-grained permissions for DevEnviron

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Creating a development environment instance	POST /v1/{project_id}/notebooks	modelarts: notebook:create	ecs:serverKeypairs:create swr:repository:getNamespace swr:repository:listNamespace swr:repository:deleteTag swr:repository:getRepository swr:repository:listTags swr:instance:createTempCredential iam:users:getUser iam:users:listUsers iam:projects:listProjects mrs:cluster:get smn:topic:publish obs:object:PutObject obs:object:GetObject obs:object:GetObjectVersion obs:bucket:HeadBucket obs:object:DeleteObject obs:object:GetObject obs:bucket>CreateBucket	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
			obs:bucket:ListBucket modelarts:trainJob:list modelarts:trainJob:update modelarts:trainJobVersion:delete modelarts:pool:list		
Obtaining development environment instances	GET /v1/{project_id}/notebooks	modelarts:notebook:list	-	√	√
Obtaining details about a development environment instance	GET /v1/{project_id}/notebooks/{id}	modelarts:notebook:get	-	√	√
Modifying a development environment instance	PUT /v1/{project_id}/notebooks/{id}	modelarts:notebook:update	-	√	√
Deleting a development environment instance	DELETE /v1/{project_id}/notebooks/{id}	modelarts:notebook:delete	-	√	√
Starting a development environment instance of the new version	POST /v1/{project_id}/notebooks/{id}/start	modelarts:notebook:start	-	√	√
Stopping a development environment instance of the new version	POST /v1/{project_id}/notebooks/{id}/stop	modelarts:notebook:stop	-	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Obtaining supported images	GET /v1/{project_id}/images	modelarts:image:list	-	√	√
Obtaining details of an image	GET /v1/{project_id}/images/{id}	modelarts:image:get	-	√	√
Obtaining image groups	GET /v1/{project_id}/images/group	modelarts:image:listGroup	-	√	√
Registering a custom image	POST /v1/{project_id}/images	modelarts:image:register	-	√	√
Deleting a custom image	DELETE /v1/{project_id}/images/{id}	modelarts:image:delete	-	√	√
Saving as a custom image	POST /v1/{project_id}/notebooks/{id}/create-image	modelarts:image:create	-	√	√
Obtaining the storage mounted to a development environment instance	POST /v1/{project_id}/notebooks/{id}/create-image	modelarts:notebook:listMountedStorages	-	√	√
Mounting storage to a development environment instance	POST /v1/{project_id}/notebooks/{instance_id}/storage	modelarts:notebook:mountStorage	-	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Obtaining details about the storage mounted to a development environment instance	GET /v1/{project_id}/notebooks/{instance_id}/storage/{storage_id}	modelarts:notebook:getMountedStorage	-	√	√
Unmounting storage from a development environment instance	DELETE /v1/{project_id}/notebooks/{instance_id}/storage/{storage_id}	modelarts:notebook:unmountStorage	-	√	√
Updating the rules for stopping a development environment instance	PATCH /v1/{project_id}/notebooks/{id}/lease	modelarts:notebook:updateStopPolicy	-	√	√

14.4 Training Job Permissions (New Version)

Table 14-16 Fine-grained permissions for training jobs (new version)

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Creating a training job	POST /v2/{project_id}/training-jobs	modelarts:trainJob:create	swr:repository:listTags swr:repository:getRepository swr:repository:listRepositories smn:topic:publish smn:topic:list obs:object:GetObjectAcl obs:object:PutObjectAcl obs:object:PutObject obs:object:GetObject obs:object:DeleteObject obs:object:ModifyObjectMetadata	√	√
Modifying a training job	PUT /v2/{project_id}/training-jobs/{training_job_id}	modelarts:trainJob:update	-	√	√
Deleting a training job	DELETE /v2/{project_id}/training-jobs/{training_job_id}	modelarts:trainJob:delete	-	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Obtaining details about a training job	GET /v2/{project_id}/training-jobs/{training_job_id}	modelarts:trainJob:get	-	√	√
Obtaining training jobs	POST /v2/{project_id}/training-job-searches	modelarts:trainJob:list	-	√	√
Previewing training job logs	GET /v2/{project_id}/training-jobs/{training_job_id}/tasks/{task_id}/logs/preview	modelarts:trainJob:previewLog	-	√	√
Downloading training job logs	GET /v2/{project_id}/training-jobs/{training_job_id}/tasks/{task_id}/logs/url	modelarts:trainJob:logExport	-	√	√
Creating an algorithm	POST /v2/{project_id}/algorithms	modelarts:aiAlgorithm:create	-	√	√
Modifying an algorithm	PUT /v2/{project_id}/algorithms/{algorithm_id}	modelarts:aiAlgorithm:update	-	√	√
Deleting an algorithm	DELETE /v2/{project_id}/algorithms/{algorithm_id}	modelarts:aiAlgorithm:delete	-	√	√
Obtaining algorithms	GET /v2/{project_id}/algorithms	modelarts:aiAlgorithm:get	-	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Obtaining details about an algorithm	GET /v2/{project_id}/algorithms/{algorithm_id}	modelarts:aiAlgorithm:get	-	√	√

14.5 Model Management Permissions

Table 14-17 Fine-grained permissions for model management

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Importing a Model	POST /v1/{project_id}/models	modelarts:model:create	obs:bucket:ListAllMybuckets obs:object:PutObjectAcl obs:bucket:ListBucket obs:bucket:HeadBucket obs:object:GetObject obs:object:PutObject	√	√
Querying the List of Models	GET /v1/{project_id}/models	modelarts:model:list	N/A	√	√
Deleting a Model	DELETE /v1/{project_id}/models/{model_id}	modelarts:model:delete	N/A	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying Details About a Model	GET /v1/{project_id}/models/{model_id}	modelarts:model:get	N/A	√	√

14.6 Service Management Permissions

Table 14-18 Fine-grained permissions for service management

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Deploying a model	POST /v1/{project_id}/services	modelarts:service:create	N/A	√	√
Obtaining model services	GET /v1/{project_id}/services	modelarts:service:list	N/A	√	√
Obtaining details about a model service	GET /v1/{project_id}/services/{service_id}	modelarts:service:get	N/A	√	√
Updating a model service	PUT /v1/{project_id}/services/{service_id}	modelarts:service:update	N/A	√	√
Deleting a model service	DELETE /v1/{project_id}/services/{service_id}	modelarts:service:delete	N/A	√	√

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Starting or stopping a model service	PUT /v1/{project_id}/services/{service_id} (with statuses in the request body)	modelarts:service:action	N/A	√	√
Obtaining service monitoring	GET /v1/{project_id}/services/{service_id}/monitor	modelarts:service:getMonitor	N/A	√	√
Obtaining service update logs	GET /v1/{project_id}/services/{service_id}/logs	modelarts:service:getLogs	N/A	√	√
Obtaining service event logs	GET /v1/{project_id}/services/{service_id}/events	modelarts:service:getEvents	N/A	√	√

15 Common Parameters

15.1 Status Code

[Table 15-1](#) describes the status codes.

Table 15-1 Status codes

Status Code	Code	Status Code Description
100	Continue	The client continues sending the request. This provisional response informs the client that part of the request has been received and has not yet been rejected by the server.
101	Switching Protocols	Switching protocols. The target protocol must be more advanced than the source protocol. For example, the current HTTP protocol is switched to a later version of HTTP.
200	OK	The request has been fulfilled.
201	Created	The request for creating a resource has been fulfilled.
202	Accepted	The request has been accepted, but the processing has not been completed.
203	Non-Authoritative Information	Non-authoritative information. The request is successful.

Status Code	Code	Status Code Description
204	NoContent	The request has been fulfilled, but the HTTP response does not contain a response body. The status code is returned in response to an HTTP OPTIONS request.
205	Reset Content	The server has fulfilled the request, but the requester is required to reset the content.
206	Partial Content	The server has successfully processed a part of the GET request.
300	Multiple Choices	There are multiple options for the location of the requested resource. The response contains a list of resource characteristics and addresses from which the user or user agent (such as a browser) can choose the most appropriate one.
301	Moved Permanently	The requested resource has been assigned a new permanent URI, and the new URI is contained in the response.
302	Found	The requested resource resides temporarily under a different URI.
303	See Other	The response to the request can be found under a different URI, and should be retrieved using a GET or POST method.
304	Not Modified	The requested resource has not been modified. When the server returns this status code, it does not return any resources.
305	Use Proxy	The requested resource must be accessed through a proxy.
306	Unused	The HTTP status code is no longer used.
400	BadRequest	The request is invalid. Do not retry the request before modification.

Status Code	Code	Status Code Description
401	Unauthorized	The status code is returned after the client provides the authentication information, indicating that the authentication information is incorrect or invalid.
402	Payment Required	This status code is reserved for future use.
403	Forbidden	The request has been rejected. The server has received and understood the request; yet it refused to respond, because the request is set to deny access. Do not retry the request before modification.
404	NotFound	The requested resource cannot be found. Do not retry the request before modification.
405	MethodNotAllowed	The request contains one or more methods not supported for the resource. Do not retry the request before modification.
406	Not Acceptable	The server cannot fulfill the request according to the content characteristics of the request.
407	Proxy Authentication Required	This status code is similar to 401, but the client must first authenticate itself with the proxy.
408	Request Time-out	The request timed out. The client may repeat the request without modifications at any time later.
409	Conflict	The request could not be processed due to a conflict with the current state of the resource. This status code indicates that the resource that the client attempts to create already exists, or the requested update failed due to a conflict.

Status Code	Code	Status Code Description
410	Gone	The requested resource is no longer available. The status code indicates that the requested resource has been deleted permanently.
411	Length Required	The server refuses to process the request without a defined Content-Length .
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 request is larger than that a server is able to process. The server may close the connection to prevent the client from continuing the request. If the server cannot process the request temporarily, the response will contain a Retry-After header field.
414	Request-URI Too Large	The URI provided was too long for the server to process.
415	Unsupported Media Type	The server is unable to process the media format in the request.
416	Requested range not satisfiable	The requested range is invalid.
417	Expectation Failed	The server fails to meet the requirements of the Expect request-header field.
422	UnprocessableEntity	The request is well-formed but is unable to be processed due to semantic errors.
429	TooManyRequests	The client has sent excessive number of requests to the server within a given time (exceeding the limit on the access frequency of the client), or the server has received an excessive number of requests within a given time (beyond its processing capability). In this case, the client should resend the request after the time specified in the Retry-After header of the response has elapsed.

Status Code	Code	Status Code Description
500	InternalServerError	The server is able to receive but unable to understand the request.
501	Not Implemented	The server does not support the requested function.
502	Bad Gateway	The server acting as a gateway or proxy has received an invalid request from a remote server.
503	ServiceUnavailable	The requested service is invalid. Do not retry the request before modification.
504	ServerTimeout	The request cannot be fulfilled within a given time. This status code is returned to the client only when the Timeout parameter is specified in the request.
505	HTTP Version not supported	The server does not support the HTTP protocol version used in the request.

15.2 Error Codes

If an error code starting with APIGW is returned after you call an API, rectify the fault by referring to the instructions provided in [API Gateway Error Codes](#).

Status Code	Error Codes	Error Message	Description	Solution
100	ModelArts.0116	The expected {0} exceeds the quota limit.	The expected {0} exceeds the quota limit.	Contact the administrator to increase the quota.
100	ModelArts.6768	SSH configuration is missing, target image {0} only support SSH dev service.	SSH configuration is missing, target image {0} only support SSH dev service.	Select a proper image.
200	ModelArts.4606	The sample has been reviewed.	The sample has been reviewed.	Proceed with follow-up operations.

Status Code	Error Codes	Error Message	Description	Solution
200	ModelArts.4900	Training job prepared.	The training job has been prepared.	Proceed with follow-up operations.
200	ModelArts.4902	Exporting labels.	Labels are being exported.	Wait until labels are exported.
200	ModelArts.4904	Labels exported.	Labels have been exported.	Proceed with follow-up operations.
200	ModelArts.4910	Model import task submitted.	The model import task has been submitted.	Proceed with follow-up operations.
200	ModelArts.4912	Model import task executed.	The model import task has been executed.	Proceed with follow-up operations.
200	ModelArts.4914	Auto labeling task submitted.	The auto labeling task has been submitted.	Wait until the task is complete.
200	ModelArts.4916	Auto labeling task executed.	The auto labeling task has been executed.	Proceed with follow-up operations.
200	ModelArts.4918	Import task submitted.	The import task has been submitted.	Wait until the task is complete.
200	ModelArts.4920	Import task executed.	The import task has been executed.	Proceed with follow-up operations.
200	ModelArts.4926	Collecting hard examples submitted.	Collecting hard examples has been submitted.	Wait until the task is complete.
200	ModelArts.4950	Auto inference task submitted.	The auto inference task has been submitted.	Wait until the task is complete.

Status Code	Error Codes	Error Message	Description	Solution
200	ModelArts.4952	Auto inference task executed.	The auto inference task has been executed.	Proceed with follow-up operations.
200	ModelArts.4960	Auto grouping task submitted.	The auto grouping task has been submitted.	Wait until the task is complete.
200	ModelArts.4962	Auto grouping task executed.	The auto grouping task has been executed.	Proceed with follow-up operations.
200	ModelArts.4964	Auto grouping task is already running.	The auto grouping task is already running.	Please wait.
204	ModelArts.2776	NotReadyToFetchLog	not ready for fetch log, wait for training to return data	Please try again later.
204	ModelArts.2777	NotReadyToFetchMetric	not ready for fetch metric, wait for training to return data	Please try again later.
400	ModelArts.0101	Invalid Argument.	Invalid parameter.	Enter the correct parameter as prompted.
400	ModelArts.0102	The workspace does not exist.	The workspace does not exist.	Check the current workspace.
400	ModelArts.0104	Parameter error.	Parameter error.	Check the parameter settings.
400	ModelArts.0107	The values of the request parameters ({0},{1}) are invalid.	Invalid parameter values ({0}, {1}).	Check whether the parameter values are valid.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.0113	Create Notebook failed. Quota: {} is exhausted.	Failed to create the notebook instance due to the exhausted quota.	Contact the administrator for a higher quota.
400	ModelArts.0118	QuotaInsufficient	The expected %s exceeds the quota limit.	Release idle resources, or apply for more quotas
400	ModelArts.0204	Token must contain projectId info.	No project ID included in the token.	Ensure that the project token is used.
400	ModelArts.0210	Invalid project ID.	The project ID is invalid.	Check the project ID.
400	ModelArts.0420	Failed to query agency.	Failed to query agency.	System error. Contact technical support.
400	ModelArts.0421	Failed to create agency.	Failed to create agency.	System error. Contact technical support.
400	ModelArts.0422	Failed to query users.	Failed to query users.	System error. Contact technical support.
400	ModelArts.0423	Disagree with service statement.	Disagree with service statement.	System error. Contact technical support.
400	ModelArts.0424	User authorization information already exists.	User authorization information already exists.	Authorization already exists. To update the authorization, delete the original one and add new authorization.
400	ModelArts.0425	Failed to add user authorization information.	Failed to add user authorization information.	System error. Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.0426	Failed to delete user authorization information.	Failed to delete user authorization information.	System error. Contact technical support.
400	ModelArts.0427	Failed to get user authorization information.	Failed to get user authorization information.	System error. Contact technical support.
400	ModelArts.0428	Failed to update agency.	Failed to update agency.	System error. Contact technical support.
400	ModelArts.0429	The authorization does not exist. Check whether the user_id is correct.	The authorization does not exist. Check whether the user_id is correct.	Check whether the user_id is correct.
400	ModelArts.0430	Failed to query agency grants.	Failed to query agency grants.	System error. Contact technical support.
400	ModelArts.0431	Failed to query agency quotas.	Failed to query agency quotas.	System error. Contact technical support.
400	ModelArts.1002	OBS operation failed.	OBS operation failed.	Ensure that the OBS service is available.
400	ModelArts.1003	The user account is abnormal (expired or frozen) or the user does not have the permission to perform the OBS operation.	The user account is abnormal (expired or frozen) or the user does not have the permission to perform the OBS operation.	For details, see What Do I Do If a Message Indicating Insufficient Permissions Is Displayed When I Use ModelArts?
400	ModelArts.1120	Parameter verification failed.	Parameter verification failed.	System error. Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2750	DuplicateEvaluationName	Duplicate evaluation job (name %s).	Change evaluation job name.
400	ModelArts.2751	DuplicateTrainingJobName	Duplicate training job (name %s).	Change training job name.
400	ModelArts.2752	DuplicateAiAlgorithmNameAndVersion	An algorithm with the same name and version already exists.	Check the validity of the algorithm information in the request.
400	ModelArts.2753	InputsOutputsMessageError	input and output channel information is not standardized.	Check the validity of the input and output channel information in the request.
400	ModelArts.2754	ModelartsHostedNumError	Only one output channel can be configured as ModelArts hosted output.	Check the validity of the output path information in the request.
400	ModelArts.2755	AiAlgorithmNotFound	algorithm not found.	Check whether the training project information in the request is valid.
400	ModelArts.2756	HasSameNameWithMarketAlgorithm	Duplicate name with subscribed algorithm.	Check whether the training project information in the request is valid.
400	ModelArts.2757	CodeDirError	code directory path error.	Check whether the training project information in the request is valid.
400	ModelArts.2758	BootFileDirError	code startup file path error.	Check whether the training project information in the request is valid.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2759	TooManyCodeFiles	Insufficient quota, too many code files, support uploading up to %s files.	Please check the number of code files.
400	ModelArts.2760	CodeFolderTooDeep	Insufficient quota, too many levels of code directories, supporting up to %s directories	Please check the code directory depth.
400	ModelArts.2761	CodeFilesSizeTooLarge	Insufficient quota, the code file takes up too much storage space, supporting up to %s GB	Please check the code directory depth.
400	ModelArts.2762	DuplicateFlavorCode	Duplicate flavor code (%s).	Change flavor code message.
400	ModelArts.2763	DoNotHaveFlavor	The selected flavor is invalid.	Check the validity of the flavor in the request.
400	ModelArts.2764	QueryParamsError	Invalid query parameter (%s).	Check the validity of the parameter in the request.
400	ModelArts.2765	StringParameterError	character variables must be within the preset parameters.	Please enter the variable value based on the preset range.
400	ModelArts.2766	DoNotHaveDefaultValue	Missing default value.	Please enter the default value.
400	ModelArts.2767	ParameterKeyRepeat	parameter key repeat.	Please rename the parameter name.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2768	DefaultValueTypeError	Default value does not match parameter type.	Please check the default parameter type.
400	ModelArts.2769	DefaultValuesNotInRange	default value is not in the setting range.	Please ensure that the default value is within the range.
400	ModelArts.2770	RangeError	Parameter range error.	Please enter another value range.
400	ModelArts.2771	NotHavePermission	No permission to modify.	Please check the user permission.
400	ModelArts.2772	OriginalAlgorithmCodeInfoError	Current algorithm creation failed. To ensure the availability of the algorithm, please reselect the code directory and startup file.	Please reselect the code directory and startup file.
400	ModelArts.2773	GetObsObjectContentError	get obs object content error.	Please check the file permission.
400	ModelArts.2774	ParseParameterError	parse parameter error.	Hyperparameters are parsed as beta. If the parsing result is improper, manually enter the value.
400	ModelArts.2775	TrainingJobNotFound	Training job (ID: %s) not found.	Check whether the training job information in the request is valid.
400	ModelArts.2778	EvalJobNotFound	Model evaluation job (ID: %s) not found.	Check whether the job ID in the request is valid.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2779	EvalVerNotFound	Model evaluation job version (ID: %s) not found.	Check whether the evaluation job version information in the request is valid.
400	ModelArts.2780	EngineNotFound	AI engine(id:%s) not found.	Check whether the engine informer in the request is valid.
400	ModelArts.2781	FlavorNotFound	Flavor (%s) not found.	Check whether the flavor in the request is valid.
400	ModelArts.2782	DatasetVersionNotFound	Dataset version (ID: %s) not found.	Check whether the dataset version ID in the request is valid.
400	ModelArts.2783	DatasetNotFound	Dataset (ID: %s) not found.	Check whether the dataset ID in the request is valid.
400	ModelArts.2787	InvalidJsonBody	Invalid JSON request body.	Check the request body.
400	ModelArts.2788	InvalidParameter	Invalid parameter(%s).	Check the request parameter.
400	ModelArts.2789	UnsupportedFilterBy	Unsupported filtering item.	Check whether the filtering item is valid.
400	ModelArts.2790	UnsupportedSortBy	Unsupported sorting item.	Check whether the sorting item is valid.
400	ModelArts.2791	InvalidObsPath	Invalid obs path: %s, reason: %s.	Check the obs path.
400	ModelArts.2792	BootFileNotBelongToPackage	The boot_file does not belong to the package_id directory.	Check whether boot_file and package_id are set correctly.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2793	FlavorOutOfRange	The number of flavor instances (%d) exceeds the maximum (%d).	Check the flavor.
400	ModelArts.2794	InvalidModelURL	Invalid model URL.	Check the model URL.
400	ModelArts.2795	GetModel	Failed to obtain the model: %s	Check whether the model is valid.
400	ModelArts.2797	EvalResultsNotPrepared	The evaluation results is not generated.	Wait for the evaluation results generated.
400	ModelArts.2798	UnsupportedModel	Unsupported model id:%s	Check whether the model id is valid.
400	ModelArts.2801	FederationNotFound	federation ID (%s) not found.	Check whether the federation id is valid.
400	ModelArts.2802	InvalidCodeDir	Invalid codeDir path: %s.	Check the codeDir path.
400	ModelArts.2804	InsufficientPermissionToAuthorize	The current user does not have sufficient permission to authorize all sub-users of the tenant.	Please confirm user's iam permission
400	ModelArts.2805	FederationInviteUserError	The participant to be invited contains the IAM user ID of the current account(%s).	Ensure that the user list does not contain the IAM user ID of the current account.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2806	MustHaveCmdAndImage	Custom image jobs command and engine.url cannot be empty.	Check whether the command and engine.url is valid.
400	ModelArts.2807	UnsupportedConditionKey	Unsupported condition key (%s)	Check whether the key of search is valid.
400	ModelArts.2808	UnsupportedConditionOperator	Unsupported condition operator (%s)	Check whether the operator of search is valid.
400	ModelArts.2809	UnsupportedConditionValue	Unsupported condition value (%s)	Check whether the value of search is valid.
400	ModelArts.2810	SWRQueryImageInfoError	Custom image query failure	Check whether the image_url is valid.
400	ModelArts.2811	SWRCreatShareError	Custom image share-create failure	Check whether the image_url is valid.
400	ModelArts.2812	UnsupportedActionType	Unsupported action type:%s	Check whether the action type is valid.
400	ModelArts.2814	AlgorithmNotMatch	Job algorithm configuration(%s) does not match algorithm management configuration.	Please check the parameter is valid.
400	ModelArts.2815	ExceedQuotaLimit	Exceed quota limit of resource(%s).	Please release the resources in use or apply for an expanded quota.
400	ModelArts.2816	ParamRangeError	The parameter(%s) exceeds the upper limit %s.	Please enter another value range.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2817	AiAlgorithmShareError	algorithm(%s) is not ready to share.	Please wait for the algorithm to complete creation.
400	ModelArts.2818	LogFileNotGenerated	the log file is not generated	Please view the log after the log is generated.
400	ModelArts.2819	LogFileHasCleared	the log file has been cleared	Please select obs url to upload your logs when creating training jobs.
400	ModelArts.2820	LogPathNotFound	the log storage path cannot be found	please use old API to view the log
400	ModelArts.2821	DuplicateAlgorithmName	Duplicate algorithm (name %s).	The algorithm name already exists, Please change algorithm name.
400	ModelArts.2822	LogExportPathNotSet	The log export path is not set.	Please set the log export path.
400	ModelArts.2823	DomainIdNotMatched	Policy doesn't allow to be performed. domain id %s, config domain id %s.	Please check domain id in configfile and Request Header.
400	ModelArts.2824	SearchIndicatorsError	The search indicators is duplicate.	Check whether the search indicators is duplicate.
400	ModelArts.2825	ParamTypeError	The parameter (%s) value type error.	Ensure that the parameter value type is correct.
400	ModelArts.2826	SearchParamsError	The search parameters error.	Please enter another search parameter.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2827	FailureAnalysisNotPossible	Unable to perform failure analysis on jobs that did not fail.	Please perform a failure analysis on the failed training job.
400	ModelArts.2828	FailureAnalysisFailed	Failed to get the reason for training job failure.	Unknown failure. Contact technical support.
400	ModelArts.2829	DuplicateEngineId	Duplicate training engine (name %s).	Change training engine name.
400	ModelArts.2830	MustHaveEngineId	Custom image jobs engine_id cannot be empty.	Check whether the engine_id is valid.
400	ModelArts.2831	FeedbackFailureAnalysisNotPossible	Failure to provide feedback on failure results.	Please give feedback on the failed job for which the reason has been analyzed.
400	ModelArts.2832	EngineNeedUpgrade	The AI engine version which you are using is too old, it has been removed.	Please use the latest version of AI engine.
400	ModelArts.2833	ExceedFreeFlavorQuota	The job quantity exceeds the maximum number (%d) of jobs that can be created by a single user of the free flavor.	Please delete other free flavor job.
400	ModelArts.2834	UnsupportedRemoteDataType	Does not support data type (%s).	Change to a supported data type.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2835	GetSizeOfChannelTimeOut	Get size of input channel time out.	Please get size of folder in local file system or obs service.
400	ModelArts.2837	FrozenAccount	The account has been restricted or frozen.	Please check the account.
400	ModelArts.2838	WorkspacePolicyLimit	Policy doesn't allow (%s) to be performed	Check the configuration of the fine-grained policy in IAM
400	ModelArts.2839	InvalidMindSporeConfig	Invalid MindSpore advanced configuration (%s).	Check the validity of the information in the request.
400	ModelArts.2840	UnsupportedFlavor	Engine or resource policy specified cannot be supported on this flavor.	Please reselect flavor.
400	ModelArts.2841	DuplicateTrainingExperimentName	Duplicate training experiment (name: %s).	Change training experiment name.
400	ModelArts.2842	TrainingExperimentNotFound	Training job (id: %s) not found.	Check whether the training experiment information in the request is valid.
400	ModelArts.2843	QueryVPCEPFailed	Query vpc endpoint failed for reason (%s).	vpcep request failed, Contact technical support.
400	ModelArts.2844	ChangeVPCEPPolicyFailed	Change vpc endpoint policy failed for reason (%s).	vpcep request failed, Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2845	ImageSizeExceeded	SWR image size exceeded (%dGB > %dGB).	Please modify your swr image.
400	ModelArts.2846	TrainingExperimentTypeMismatch	The type of training job (%s) does not match the type of training experiment (%s).	Please select a training experiment that matches the training job type.
400	ModelArts.2847	IEFNodeUnavailable	The edge node (%s) current status is %s, cannot perform federated training.	Please select an available edge node.
400	ModelArts.2848	IEFClientError	Please check whether the parameter edge_node_id(%s) is correct, error detail: %s.	Please select an available edge node.
400	ModelArts.2849	FederationParticipantsReachLimit	Exceeded maximum federation participants limit.	Please select other federations with participants below the limit.
400	ModelArts.2850	FederationDuplicateActivityName	Duplicate federation activity (name %s).	The federation activity name already exists, please change it.
400	ModelArts.2851	FederationDuplicateParticipant	you have already joined this federation activity(id %s).	Please select a federation activity that you have not yet joined.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2853	FederationOperationForbidden	Prohibition of federation activity status transitions from %s to %s.	This operation is prohibited.
400	ModelArts.2854	UnsupportedRemoteType	Unsupported input/output channel remote type.	Change to a supported channel remote type.
400	ModelArts.2855	RunUserDeny	Prohibition of run_user < %d when the training job is not in the dedicated pool.	This operation is prohibited.
400	ModelArts.2856	NotOwnImagePublishGalleryError	Unable to publish this algorithm to gallery, because image of the algorithm is not own to you.	Please use the algorithm that image is own to you.
400	ModelArts.2857	InvalidLocalCodeDir	The local_code_dir parameter verification failed for reason(%s)	Check the validity of the information in the request.
400	ModelArts.2858	UnsupportedOperation	Current operation not supported, (%s).	Please refer to hints.
400	ModelArts.2859	InvalidWorkingDir	The working_dir parameter verification failed for reason(%s)	Check the validity of the information in the request.
400	ModelArts.2879	JobRuntimeTypeNotDebug	Job runtime_type is not debug	Please adjust job runtime_type to debug

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2880	ImageSaveJobExist	ImageSaveJob is exist	Please wait ImageSaveJob to be completed
400	ModelArts.2883	ImageSaveJobSecPhaseNotRunning	training job secondary_phase is not running	Please check training job secondary_phase
400	ModelArts.2884	ImageSwrAlreadyExist	image tag and image name is exist	Please check the image tag and name is unique in namespace
400	ModelArts.2885	AccessImageSwrException	the access of user swr is exception	Please check the image namespace is exist or user authorization is enough
400	ModelArts.2886	NotTrainingPool	Pool (%s) is not a training pool	Please check whether the pool supports the training job type
400	ModelArts.2887	PoolNotRunning	Pool (%s) is not running	Please check the status of the pool
400	ModelArts.2889	GetOsPoolFailed	Get pool (%s) failed.%s	Please check the validity of the pool in the request
400	ModelArts.2891	WorkspaceSetError	workspace access error,error message is %s, error code is %s	Please try to solve by error message
400	ModelArts.3015	Config json file does not conform to the specification.	The model configuration file does not comply with file specifications.	Check whether config.json or initial_config complies with the specifications.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3016	Failed to parse config json file because of unsupported fields, types, or formats({0}, {1}).	Failed to parse the configuration file because the field, type, or format is not supported.	Check whether the field is correct as prompted.
400	ModelArts.3017	Failed to publish model because source location noncompliance.	Failed to publish the model because the model source path does not meet specifications.	Check whether the source_location value complies with the specifications.
400	ModelArts.3023	Invalid labels({0}) of model.	Invalid model label {0}.	Ensure that a model label starts with a letter or a Chinese character and contains a maximum of 64 characters, including letters, digits, underscores (_), and Chinese characters.
400	ModelArts.3024	The templateInputs field is incorrectly configured, check if the input is consistent with the template requirements.	Incorrect configuration. Check whether the configuration complies with the template requirements.	The parameter configuration does not comply with the template requirements. Modify the configuration.
400	ModelArts.3025	User ({0}) has only a single share permission and cannot be shared with all users.	User {0} does not have permission to share data with all users.	Only the administrator or accounts in the whitelist have permission to share data with all users.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3026	Failed to delete infer format, infer format ({0}) already be used by template.	Failed to delete input/output mode {0} because it is being used by a template.	Find the template that is using the input/output mode, disassociate the mode from the template, and delete the mode again.
400	ModelArts.3027	The model used by the template ({0}) is private and belongs to other users and cannot be shared.	Input/Output mode {0} used by the template cannot be shared.	Select another mode.
400	ModelArts.3028	Failed to publish model, please select input and output mode.	Failed to publish the model. Select an input/output mode.	Select another input/output mode and publish the model again.
400	ModelArts.3029	Model publishing failed because the Template model must provide the template ID used.	Failed to publish the model because the template ID is unavailable.	Enter the template ID.
400	ModelArts.3030	Model publishing failed, template ({0}) does not support modifying its built-in input and output mode.	Failed to publish the model because the built-in input/output mode of template {0} cannot be changed.	Do not change the input/output mode of a template when publishing the template model.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3031	Cancel sharing failed, ({0}) has not been shared with other tenants.	Failed to cancel the sharing because image {0} is not shared with other users.	Ensure that image {0} is not shared with other users.
400	ModelArts.3032	Image ({0}) cannot be shared to admin ({1}), please check the image permissions.	Failed to share image {0} with the administrator {0}. Check the image permission.	Perform operations according to the error message.
400	ModelArts.3033	Template publishing failed, please provide template label.	Failed to publish the template model because its label is left blank.	Set the model label.
400	ModelArts.3034	Template model failed to be published, template field is required.	Failed to publish the template model because the template field is left blank.	Set template.
400	ModelArts.3035	Profile preview failed, sourceLocation and previewConfig fields need to provide at least one.	Failed to preview the configuration file.	Either source_location or preview_config must be specified.
400	ModelArts.3036	Parameter verification failed, parameter ({0}) is required.	Failed to check parameter {0} because it is left blank.	Set parameters according to the error message.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3037	Parameter ({0}:{1}) is invalid.	Invalid parameter {0}:{1}.	Modify passwords as prompted.
400	ModelArts.3038	When isSpecific is true, domainId is required.	Failed to perform the operation because domain_id is left blank.	Set domain_id as prompted.
400	ModelArts.3039	Template input input_id cannot be repeated.	Failed to perform the operation because input_id is repetitive.	Ensure that the input_id value is unique.
400	ModelArts.3040	When the installer installer is yum or apt-get, and the version packageVersion exists, the version constraint restraint can only be EXACT.	Failed to perform the operation because restraint can only be EXACT.	Change the restraint value to EXACT.
400	ModelArts.3041	When the installer installer is conda or pip, and the version packageVersion exists, the version constraint restraint can only be EXACT, ATLEAST, or ATMOST.	Failed to perform the operation because restraint can only be EXACT, ATLEAST, or ATMOST.	Change the restraint value to EXACT, ATLEAST, or ATMOST.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3063	Mode unshared failed, the template using this mode has been shared, you need to cancel the sharing of the template first.	Failed to cancel mode sharing because the template using the mode is being shared.	Perform operations according to the error message.
400	ModelArts.3070	There is a model name that does not belong to this tenant: ({0}).	The model does not belong to user {0}.	The domain ID of the subscribed model is different from the entered domain ID. Contact the model subscription service and check whether the entered domain ID is correct.
400	ModelArts.3072	The domain id is the same and does not support subscribing to your own model.	You cannot subscribe to your own model.	Use another account to subscribe to the model.
400	ModelArts.3074	Unable to delete subscribed model.	Failed to delete the subscribed model.	Unsubscribe from the model and try again.
400	ModelArts.3076	Model does not support deploying edge services and cannot broadcast.	Failed to perform the operation because the model cannot be deployed as an edge service.	The install_type of the model does not support edge service.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3077	Model is a subscription model that cannot be broadcast.	Failed to perform the operation because the model has been subscribed.	The model_source of the model has been set to subscribe.
400	ModelArts.3078	The model status is not normal and cannot be broadcast.	Failed to perform the operation because the model status is abnormal.	Check the model status.
400	ModelArts.3079	Purchased license, can't cancel subscription.	Failed to unsubscribe from the model because a license has been configured for the model.	Delete the license and unsubscribe from the model.
400	ModelArts.3514	Field [input_params] must be set for the model that is used to deploy the batch service.	The input_params parameter for the batch service model is left blank.	Set input_params.
400	ModelArts.3515	The model {id} cannot be used for deploying services because it is still being published.	Failed to deploy the service because model {ID} is not ready.	Try again after the model is ready.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3516	Failed to deploy services because the version of the model that is used for deploying services is the same.	Failed to deploy the service due to duplicate model versions.	Correct the model version list to ensure that no duplicate model versions exist.
400	ModelArts.3518	The {service_type} service has not been enabled or authorized.	Service {type} has not been enabled or authorized.	Enable or authorize the service.
400	ModelArts.3519	Services only in one of states in [deploying, running, stopping, deleting] can be updated.	Services in the deploying, running, stopping, or deleting state cannot be updated.	Do not update services in the deploying, running, stopping, or deleting state.
400	ModelArts.3520	A maximum of {number} {service_type} services are allowed.	The total number of {type} services has reached the maximum allowed limit {quantity}.	Delete the services that are no longer used or contact service O&M personnel to increase the quantity quota.
400	ModelArts.3521	A maximum of {number} {service_type} services in running status are allowed.	The total number of {type} services in the running state has reached the maximum allowed limit {quantity}.	Delete the services that are no longer used or contact service O&M personnel to increase the quantity quota.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3522	A maximum of {number} {service_type} service instances are allowed.	The total number of {type} service instances has reached the maximum allowed limit {quantity}.	Delete the service instances that are no longer used or contact service O&M personnel to increase the quantity quota.
400	ModelArts.3523	Service {name} has been subscribed.	Service {name} has been subscribed.	Directly use the subscribed service.
400	ModelArts.3524	Failed to subscribe to the service because {reason}.	Failed to subscribe to the service because {Reason}.	Locate the fault based on the failure cause.
400	ModelArts.3525	Forbidden to update service {name} because it is a shared service.	Failed to update service {name} because it is a shared service.	Do not update a shared service.
400	ModelArts.3527	Forbidden to subscribe to service {id} because it is a {service_type} service.	Failed to subscribe to service {ID} because it is a {type} service.	The service of this type cannot be subscribed to.
400	ModelArts.3528	Forbidden to subscribe to service {id} because it is released by yourself.	Failed to subscribe to service {ID} because it is your service.	You cannot subscribe to services published by yourself.
400	ModelArts.3529	Model {id} under service {id} does not exist.	Model {ID} of service {ID} does not exist.	Ensure that the model ID is correctly set and that the model belongs to the target service.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3531	Service {id} has created the QR code.	A QR code has been created for service {ID}.	The QR code has been created for the service and does not need to be created again.
400	ModelArts.3532	No QR code found for service {id}.	A QR code has not been created for service {ID}.	Create a QR code for the service and try again.
400	ModelArts.3533	The selected edge node does not support {GPU/NPU}.	The selected edge node flavor does not support {GPU/NPU}.	Add the target hardware support to the selected edge node, or use another edge node that supports the target hardware.
400	ModelArts.3534	The security group must contain at least one inbound rule to allow the TCP request from source address 0.0.0.0/0 and port 8080.	The security group must contain at least one inbound rule to permit the requests whose protocol is TCP, source address is 0.0.0.0/0, and port number is 8080.	Add the inbound rule to the security group.
400	ModelArts.3535	Subservice {name} of service {name} does not exist.	Subservice {name} of service {name} does not exist.	Ensure that the subservice name is correctly set and that the subservice belongs to the target service.
400	ModelArts.3536	Subservice {name} of service {name} has been subscribed.	You have subscribed to subservice {name} of service {name}.	Directly use the subscribed subservice.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3538	The requirement notification of service {name} should not exceed one.	At most one requirement notification is allowed for service {name}.	Check the configuration and ensure that no more than one requirement notification is configured for service {name}.
400	ModelArts.3540	Operation failed because you are not the owner of service {name}.	You are not the owner of service {name}.	This operation can be performed only by the service owner.
400	ModelArts.3541	Error code {error_code} of service {name} does not exist.	Error code {error code} of service {name} does not exist.	Ensure that the error code is correctly set and that the error code belongs to the target service.
400	ModelArts.3542	Error code {error_code} of service {name} already exists.	Error code {error code} of service {name} already exists.	Change the error code and try again.
400	ModelArts.3544	URL domain CNAME resolution failed.	Failed to parse the CNAME domain.	Check whether the URL is correct.
400	ModelArts.3545	Invalid certificate or private key.	Invalid certificate or private key.	Check whether the certificate or private key is correctly configured.
400	ModelArts.3547	Cluster {id} does not exist.	Cluster {ID} does not exist.	Check whether the cluster ID is correct.
400	ModelArts.3548	Path {path} is not a valid regex.	Path {path} is not a valid regular expression.	Check whether the path is correct.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3549	Error code {code} is duplicated.	Duplicate error code {error code} in the request body.	Modify the error code to ensure that the error code is unique.
400	ModelArts.3550	Domain {name} has been used.	Domain {noun} has been used.	Change the domain name and try again.
400	ModelArts.3551	OBS path {path} does not exist.	OBS path {path} does not exist.	Check whether the OBS path is correct.
400	ModelArts.3552	The length of [resource_id] must be in the range of [0, 64].	The resource_id value is not in the range from 0 to 64.	Check whether RESOURCE_SPEC_CODE is too long.
400	ModelArts.3553	Service {name} not subscribed yet.	Service {name} has not been subscribed to.	Subscribe to the service and try again.
400	ModelArts.3554	Cluster name {name} has been used.	Cluster name {name} has been used.	Change the cluster name and try again.
400	ModelArts.3556	Forbidden to share ai-service {id} because ai-service is unsharable.	AI service {ID} cannot be shared.	AI services cannot be shared.
400	ModelArts.3559	Source error code {error_code} of service {name} already exists.	Source error code {error code} of service {name} already exists.	Change the source error code and try again.
400	ModelArts.3560	Project {project_id} has not subscribed to subservice {id}.	Subservice {ID} has not been subscribed for project {ID}.	Subscribe to the subservice and try again.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3561	Insufficient node quota.	Insufficient node quota.	Contact service O&M personnel to increase the quota or delete unnecessary nodes to release resources.
400	ModelArts.3562	The value of field {due_time} must be a future time.	The due_time value must be later than the current time.	Set the due_time parameter to a time later than the current time.
400	ModelArts.3564	The sample collection task has been created for service {id}.	Sample collection for service {ID} has been created.	Do not create the task again.
400	ModelArts.3565	No sample collection task is created for service {id}.	Sample collection for service {ID} has not been created.	Create a service sample collection task and try again.
400	ModelArts.3566	Forbidden to modify the default workspace.	The default workspace cannot be modified.	Do not modify the default workspace.
400	ModelArts.3567	OBS error occurs because {reason}.	OBS error because {cause}.	Locate the fault based on the failure cause.
400	ModelArts.3568	OBS client error occurs.	The OBS client is abnormal.	Contact service O&M personnel.
400	ModelArts.3572	Invalid OBS URL {url}.	Invalid OBS path {path}.	Check whether the OBS path is correct.
400	ModelArts.3573	Failed to obtain the bucket name from OBS URL {url}.	Failed to obtain the bucket name from OBS path {path}.	Check whether the OBS path is correct.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3574	Failed to validate the correctness of OBS URL {url}.	Failed to check OBS path {path}.	Check whether the OBS path is correct.
400	ModelArts.3576	Failed to query the model quota.	Failed to obtain the model quota.	Contact service O&M personnel.
400	ModelArts.3577	Failed to update the model quota.	Failed to update the model quota.	Contact service O&M personnel.
400	ModelArts.3578	Insufficient model quota. Increase the quota or delete any unnecessary services.	Insufficient model quota.	Increase the quota or delete the models that are no longer used, and try again.
400	ModelArts.3580	Model not purchased.	The model has not been purchased.	Purchase the model and try again.
400	ModelArts.3582	Failed to create edge configurations	Failed to create edge configurations	Contact service O&M personnel.
400	ModelArts.3583	Failed to create the edge application due to IEF error.	Failed to create the edge application due to an IEF platform error.	Contact service O&M personnel.
400	ModelArts.3584	Failed to update the edge application.	Failed to update the edge application.	Contact service O&M personnel.
400	ModelArts.3585	The host port has been used by another edge application.	The host port has been used by another edge application.	Use another port or contact service O&M personnel.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3586	Failed to create the edge application.	Failed to create the edge application.	Contact service O&M personnel.
400	ModelArts.3587	Failed to delete the edge application.	Failed to delete the edge application.	Contact service O&M personnel.
400	ModelArts.3588	Failed to create edge volumes and environments.	Failed to create edge volumes and environments.	Contact service O&M personnel.
400	ModelArts.3589	Model {id} cannot be used to deploy {service_type} service.	Model {ID} cannot be used to deploy the {type} service.	Select another deployment type.
400	ModelArts.3590	Invalid expression rule. Create a rule using Spring Expression Language and the desired result type is Boolean.	Invalid expression rule.	Ensure that the rule complies with the Spring expression language syntax, and the expected result is of Boolean type.
400	ModelArts.3591	There are duplicate rules in the extend-configs.	Duplicate rules in extend-configs.	Modify the expression specifications to prevent duplicate expressions.
400	ModelArts.3592	Incorrect model health configuration.	Incorrect model health check parameters.	Check whether the health check parameters of the model are correct.
400	ModelArts.3593	The model has been expired.	The model has expired.	Purchase or subscribe to the model again.
400	ModelArts.3594	Failed to query IEF instances.	Failed to obtain the edge instance.	Contact service O&M personnel.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3595	Failed to create the IEF application mesh.	Failed to create the application mesh.	Contact service O&M personnel.
400	ModelArts.3596	Failed to update the IEF application mesh.	Failed to update the application mesh.	Contact service O&M personnel.
400	ModelArts.3597	Please authorize the development environment to use and store your AK and SK.	Failed to use the service because the development environment has not been authorized to store and use your AK and SK.	Authorize the development environment to store and use your AK and SK.
400	ModelArts.3598	Only nodes in the [Running] state can be selected.	Only running nodes can be selected.	Select a running node and try again.
400	ModelArts.3610	Parameter {name} cannot be empty.	Parameter {name} cannot be left blank.	Set the parameter and try again.
400	ModelArts.3611	Failed to query the batch task run log.	Failed to obtain batch processing task logs.	Contact service O&M personnel.
400	ModelArts.3612	Failed to {create/update} the service payload due to error code {code}. Please try later or submit a service ticket for professional technical support.	Failed to {create/update} service workload. The error code is {error code}. Try again later or submit a service ticket.	Try again or contact service O&M personnel.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3613	Failed to register the API. Please try later or submit a service ticket for professional technical support.	Failed to register the service API. Try again later or submit a service ticket.	Try again or contact service O&M personnel.
400	ModelArts.3620	Failed to get the number of associated services.	Failed to obtain the number of associated services.	Contact service O&M personnel.
400	ModelArts.3811	Failed to query the agency because {reason}.	Failed to obtain the agency because {Reason}.	Locate the fault based on the failure cause.
400	ModelArts.3812	Failed to create AI resource specification code {code} because {reason}.	Failed to create resource flavor code {code} because {Reason}.	Locate the fault based on the failure cause.
400	ModelArts.3813	Failed to update AI resource specification code {code} because {reason}.	Failed to update resource flavor code {code} because {Reason}.	Locate the fault based on the failure cause.
400	ModelArts.3814	Failed to delete AI resource specification code {code} because {reason}.	Failed to delete resource flavor code {code} because {Reason}.	Locate the fault based on the failure cause.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3815	Failed to delete AI subservice {id} because {reason}.	Failed to delete subservice {ID} because {Reason}.	Locate the fault based on the failure cause.
400	ModelArts.3816	Failed to create the AI proxy mapping because {reason}.	Failed to create the proxy mapping because {reason}.	Locate the fault based on the failure cause.
400	ModelArts.3817	Failed to update the AI proxy mapping because {reason}.	Failed to update the proxy mapping path because {reason}.	Locate the fault based on the failure cause.
400	ModelArts.3818	The agency of service {name} has been defined.	The agency of service {name} has been configured.	Do not repeat the operation.
400	ModelArts.3822	The batch service task does not exist.	The batch service does not exist.	Enter the correct batch service ID.
400	ModelArts.3825	Failed to generate the SDR data because {reason}.	Failed to generate CDR data because {Reason}.	Locate the fault based on the failure cause.
400	ModelArts.3826	Failed to create the API because {reason}.	Failed to create the API because {Reason}.	Locate the fault based on the failure cause.
400	ModelArts.3827	Failed to subscribe to the API because {reason}.	Failed to subscribe to the API because {Reason}.	Locate the fault based on the failure cause.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3828	Failed to unsubscribe from the API because {reason}.	Failed to unsubscribe from the API because {Reason}.	Locate the fault based on the failure cause.
400	ModelArts.3829	Failed to modify the API subscription status because {reason}.	Failed to update the API subscription because {Reason}.	Locate the fault based on the failure cause.
400	ModelArts.3830	Operation not allowed. Change the charging mode from postpaid to prepaid in CBC.	You are not allowed to change the billing mode from postpaid to prepaid.	Change the billing mode in CBC.
400	ModelArts.3831	Operation not allowed. Change the charging mode from prepaid to postpaid in CBC.	You are not allowed to change the billing mode from prepaid to postpaid.	Change the billing mode in CBC.
400	ModelArts.3832	The subscription configuration is not modified and does not need to be updated. Please check.	Failed to perform the operation because the subscription configuration has not modified.	Change the subscription configuration and try again.
400	ModelArts.3833	Failed to delete the API because {reason}.	Failed to delete the API because {Reason}.	Locate the fault based on the failure cause.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3834	Failed to update metadata in CBC because {reason}.	Failed to update the CBC metadata because {Reason}.	Locate the fault based on the failure cause.
400	ModelArts.3835	Resource specification code {code} of service {name} does not exist.	Resource flavor code {code} of service {name} does not exist.	Ensure that the resource flavor code is correctly set and that the code belongs to the target service.
400	ModelArts.3836	Resource specification code {code} of project {id} does not exist.	Resource flavor code {code} of project {1} does not exist.	Ensure that the resource flavor code is correctly set and that the code belongs to the target project.
400	ModelArts.3837	Resource ID {id} of project {id} does not exist.	Resource {ID} of project {1} does not exist.	Ensure that the resource ID is correctly set and that the resource belongs to the target project.
400	ModelArts.3838	The hard-select has not been enabled for service {id}.	Hard example filtering of service {0} has not been enabled.	Enable hard example filtering for the service and try again.
400	ModelArts.3839	The hard-select has been enabled for service {id}.	Hard example filtering of service {0} has been enabled.	You do not need to enable it again.
400	ModelArts.3840	Only one algorithm can be set for the service model.	Service {0} has more than one labeling type.	Modify the configuration to ensure that there is only one labeling type.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3841	The value of [dataset_type] must be one of values in [image_classification, object_detection].	The labeling type is not object detection or image classification.	Change the labeling type to object detection or image classification.
400	ModelArts.3842	The labeling type of service algorithm {name} does not match that of label task {type}.	The labeling type of service algorithm {0} does not match that of label task {1}.	Modify the labeling type or contact service O&M personnel.
400	ModelArts.3843	Failed to query the information about dataset {id}.	Failed to obtain database {0}.	Contact service O&M personnel.
400	ModelArts.3844	Failed to import samples to dataset {id}.	Failed to import the sample to dataset {0}.	Contact service O&M personnel.
400	ModelArts.3845	No sample is available for import under the OBS path {path} of service {id}.	No sample is available to be imported to OBS path {path} of service {ID}.	Try again or contact service O&M personnel.
400	ModelArts.3846	Failed to add the OBS bucket lifecycle rule for service {id}.	Failed to add the lifecycle rule for the OBS bucket of service {ID}.	Contact service O&M personnel.
400	ModelArts.3847	Failed to delete the OBS bucket lifecycle rule for service {id}.	Failed to delete the lifecycle rule for the OBS bucket of service {ID}.	Contact service O&M personnel.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3848	Service {id} in the information of dataset {import_type} already exists.	The service {ID} of the {import type} dataset already exists.	Check the request and select the correct service ID.
400	ModelArts.3849	Service {id} in the information of dataset {import_type} does not exist.	The service {ID} of the {import type} dataset does not exist.	Check whether the service ID is correct.
400	ModelArts.3850	The hard-sample-select task {id} of service {id} does not exist.	Hard example task {ID} of service {ID} does not exist.	Ensure that the hard example task ID is correctly set and that the task belongs to the target service.
400	ModelArts.3851	The status of hard-sample-select task {name} cannot be changed from {status} to {status}.	The status {status value} of the hard example task {name} cannot be updated to {status value}.	Try again or contact service O&M personnel.
400	ModelArts.3852	Failed to start hard-sample-select task {id} because related OBS files have been deleted.	Failed to start hard example task {ID} because key OBS files have been deleted.	Try again or contact service O&M personnel.
400	ModelArts.3853	The hard-sample-select quota of project {id} does not exist.	The quota for selecting hard samples for project {ID} does not exist.	Create the quota and try again.
400	ModelArts.3854	The hard-sample-select quota of project {id} already exists.	The quota for selecting hard samples for project {ID} already exists.	You do not need to create it again.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3856	A maximum of {number} free services are allowed.	The number of free services has reached the maximum allowed limit {Number}.	Delete unnecessary free services to release resources.
400	ModelArts.3857	A maximum of {number} free service instances are allowed.	The number of free services has reached the maximum allowed limit {Number}.	Delete unnecessary free services to release resources.
400	ModelArts.3862	Subservice {id} has been added to whitelist URL {url}.	The URL {URL} has been added to the whitelist of the sub-service {ID}.	Do not repeat the operation.
400	ModelArts.3863	Whitelist URL {id} of service {name} does not exist.	The whitelist URL {ID} of the service {name} does not exist.	Ensure that the URL ID in the whitelist is correct and that the URL belongs to the corresponding service.
400	ModelArts.3864	Subservice {id} of service {name} does not exist.	The sub-service {ID} of service {name} does not exist.	Ensure that the sub-service ID is correct and that the sub-service belongs to the corresponding service.
400	ModelArts.3865	The size of the download whitelist of service {name} exceeds the maximum number {number} allowed.	The number of the whitelist records downloaded by service {name} exceeds the upper limit {value}.	Contact service O&M personnel.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3866	Domain ID {id} and user ID {id} already exist.	The domain ID {ID} and user ID {ID} already exist.	Do not repeat the operation.
400	ModelArts.3867	Domain ID {id} does not exist.	The domain ID {ID} does not exist.	Check the request and enter the correct domain ID.
400	ModelArts.3868	Domain ID {id} and user ID {id} do not exist.	The domain ID {ID} and user ID {ID} do not exist.	Check the request and enter the correct domain ID and user ID.
400	ModelArts.3869	Failed to delete the task type because {reason}.	Failed to delete the task type. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
400	ModelArts.3870	Failed to subscribe to the API because {reason}.	Failed to subscribe to the API. Fault cause: {fault cause}.	Contact service O&M personnel.
400	ModelArts.3871	Forbidden to subscribe to postpaid QPS for the task type.	You are not allowed to subscribe to postpaid QPS for the task type.	Check the request parameter or contact service O&M personnel.
400	ModelArts.3872	Forbidden to change the charging mode for the task type from prepaid to postpaid QPS.	You are not allowed to change the billing mode of the task type from prepaid mode to postpaid QPS mode.	Check the request parameter or contact service O&M personnel.
400	ModelArts.3873	No corresponding subservice is found in cluster {name}.	The cluster {0} does not have the corresponding sub-service.	Check the request parameter or contact service O&M personnel.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3880	Failed to create the AS policy because {reason}.	Failed to create the AS policy. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
400	ModelArts.3890	The total number of AS policies exceeds the maximum number {number} allowed.	The number of AS policies exceeds the upper limit {0}.	Delete unnecessary AS policies.
400	ModelArts.3892	Calling failed due to invalid CBS request.	Failed to call the API due to the invalid CBS request.	Try again or contact service O&M personnel.
400	ModelArts.3894	The specification configuration information of runtime environment {name} does not exist.	The specification configurations of the running environment {0} does not exist.	Set the flavor configurations for the running environment and try again.
400	ModelArts.3895	The specification configuration information of runtime environment {name} already exists.	The specification configurations of the running environment {0} already exist.	Do not repeat the operation.
400	ModelArts.3896	Resource specification code {0} for user {1} already exists.	The records of the resource specification code {0} in project {1} already exist.	Do not repeat the operation.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3897	Failed to {create/obtain/remove} the AS policy due to error code {code}.	Failed to request {create/obtain/delete} the AS. Error code: {0}.	Try again or contact service O&M personnel.
400	ModelArts.3950	Failed to obtain the AI service list.	Failed to obtain the AI service list.	Contact service O&M personnel.
400	ModelArts.3951	Failed to parse file {name}.	Failed to parse the file {name}.	Ensure that the file name is correct.
400	ModelArts.3952	Insufficient resources. Please try later.	Insufficient resources.	Try again later or contact service O&M personnel.
400	ModelArts.3953	Failed to delete online service {id} because it has been associated with AI service {name}. Please disassociate it and try again.	Failed to delete real-time service {ID} because it has been associated with AI service {name}.	Cancel the association between the real-time service and all AI services and try again.
400	ModelArts.3954	AI resource specification {id} does not exist.	The cloud resource specification {ID} does not exist.	Ensure that the cloud resource specification ID is correct.
400	ModelArts.3955	Field [resource_id_components] of AI resource specification {id} cannot be empty.	The ID components in the cloud resource specification {ID} cannot be left blank.	Set the resource_id_components parameter and try again.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.3976	No resources are available for the selected specification.	No resources are available for the selected specification.	Increase the number of nodes in the resource pool or purchase a resource pool of the required specifications.
400	ModelArts.4105	Incorrect JSON format of the input data.	The JSON format of the request body is incorrect.	Use a request body in correct JSON format.
400	ModelArts.4106	Invalid authorization request. Your account is restricted.	Your account has been suspended.	Ensure your account balance is sufficient.
400	ModelArts.4111	Invalid Region header.	Invalid Region header.	Ensure the region header is correct.
400	ModelArts.4122	Incorrect username or password.	The username or password is incorrect.	Check the username and password.
400	ModelArts.4126	Account locked.	The account has been locked.	Wait until the account is unlocked and try again.
400	ModelArts.4128	Weak password is forbidden.	Do not use a weak password.	Configure a secure password.
400	ModelArts.4129	System error.	An error occurred. The taskEntity of a recovery task cannot be null.	Check taskEntity and ensure it is not null.
400	ModelArts.4200	Invalid request.	The values of the request parameters are invalid.	Check whether the request parameters are correct.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4201	Invalid request URL because no service ID or request URI included.	The request URL does not contain a service ID.	Use a correct request URL.
400	ModelArts.4202	Empty request.	The request is empty.	Ensure the request body is not empty.
400	ModelArts.4203	Invalid request because requested service %s is unavailable.	The requested service has not been started.	Ensure the service is started.
400	ModelArts.4204	Request API error. %s	You do not have the API OBT permission.	Obtain the API OBT permission.
400	ModelArts.4205	A subdirectory must be specified as the dataset input or output path.	A subdirectory must be specified as the dataset input or output path.	A subdirectory must be specified as the dataset input or output path.
400	ModelArts.4301	The labeling job does not exist.	The labeling job does not exist, and the task has been stopped.	Check the labeling job.
400	ModelArts.4311	OBS bucket does not exist	The OBS bucket does not exist.	Ensure that the bucket name is correct and that the bucket name exists in OBS.
400	ModelArts.4312	OBS path does not exist	Incorrect or invalid bucket name.	Ensure that the bucket name is correct and that the bucket name exists in OBS.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4313	OBS path is invalid	Invalid characters in the OBS path.	Ensure that the OBS path consists of valid characters, including digits, letters, hyphens (-), underscores (_), slashes (/), and Chinese characters.
400	ModelArts.4314	Obs error	OBS access error.	Ensure that you have the permission to access OBS and that the OBS path is valid.
400	ModelArts.4315	Invalid OBS path.	The OBS path is invalid.	Ensure the data URL does not contain //.
400	ModelArts.4316	OBS buckets are not supported.	OBS buckets are not supported.	Select a PFS bucket for the parallel file system.
400	ModelArts.4337	OperationCenter error.	An error occurred in OperationCenter, leading to a failure to send alarms to IES.	Check the alarms.
400	ModelArts.4338	The resource not exists	The dataset ID or labeling task ID does not exist.	Ensure that the input dataset ID or labeling task ID is correct.
400	ModelArts.4340	Import path does not contain valid file	No valid file exists in the import path.	Ensure that the file in the OBS path is valid.
400	ModelArts.4342	Dataset publish with splitting annotated samples error	Incorrect splitting for labeled samples.	Ensure that the labeled samples and labels meet splitting criteria.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.43 43	Dataset is publishing, the operation is forbidden	Do not switch, import, synchronize, or publish a dataset version because there is an ongoing publish task.	Perform the operations after the ongoing publish task is complete.
400	ModelArts.43 44	Dataset is being deleted, annotation is forbidden	No labeling task is allowed because the dataset is being deleted.	Ensure that the dataset ID is correct.
400	ModelArts.43 45	File not found	The HDFS file does not exist.	Ensure that the OBS path is correct and that the file is available in the OBS path.
400	ModelArts.43 46	Failed to obtain clusters.	Obtaining MRS clusters failed.	Check the MRS clusters.
400	ModelArts.43 47	List files failed	Failed to obtain HDFS files.	Ensure that the OBS path is correct and that the files are available in the OBS path.
400	ModelArts.43 49	Dataset is switching version, the operation is forbidden	Do not switch, import, synchronize, or publish a dataset version because there is an ongoing version switching task.	Perform the operations after the ongoing version switching task is complete.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4350	The work_path is too long, please select shorter folder	The value of work_path exceeded the limit.	Change the value of work_path to a valid one.
400	ModelArts.4351	Dataset already exists	A dataset whose name is the value of dataset_name already exists.	Change the value of dataset_name.
400	ModelArts.4352	Dataset does not exist	The dataset ID does not exist.	Ensure that the imported dataset ID is correct.
400	ModelArts.4353	Dataset version does not exist	The dataset version ID does not exist.	Check dataset version parameters.
400	ModelArts.4355	Sync data source task exist	A data synchronization task is being executed for the dataset.	Perform the operations after the ongoing data synchronization task is complete.
400	ModelArts.4356	Dataset already has running import task	A data import task is being executed for the dataset.	Perform the operations after the ongoing data import task is complete.
400	ModelArts.4357	Parse AI annotation result file name error	Failed to parse the labeling file name.	Ensure that the file name in the OBS auto labeling result path is correct.
400	ModelArts.4358	Invalid export path	Invalid OBS export path.	Ensure that the export path is correct.
400	ModelArts.4359	Export task does not exist	The export task ID does not exist.	Ensure that the export task ID is correct.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4361	Import AI annotation error	Failed to synchronize the auto labeling task result.	Ensure that the auto labeling task result is correct.
400	ModelArts.4362	Import data error	Failed to import data.	Ensure that the authentication information and the request parameters for creating an import task are correct.
400	ModelArts.4364	Dataset workPath subdir already exists	The work_path subdirectory already exists in the dataset directory.	Ensure that the subdirectory in the dataset directory is correct.
400	ModelArts.4365	Dataset labels not set	The label set of the dataset is empty.	Create labels for the dataset.
400	ModelArts.4368	Parse pc bin file error	Failed to parse the point cloud binary file.	Ensure that the point cloud binary file is not damaged.
400	ModelArts.4369	Parse pc prelabel json file error	Failed to parse the point cloud pre-labeling file.	Ensure that the point cloud pre-labeling file is correct.
400	ModelArts.4370	One dataset version can be released in a minute, please try again later	Frequent dataset version creation.	Do not frequently create dataset versions.
400	ModelArts.4371	Dataset version already exists	The value of version_name is the same as an existing version.	Change the value of version_name.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4372	Valid image not found	No point cloud data image found.	Ensure that the point cloud data image is correct.
400	ModelArts.4374	Invalid path	Invalid OBS path.	Ensure that the OBS path is correct and that the file is available in the OBS path.
400	ModelArts.4375	Parse pc obs image error	Failed to parse the point cloud data image in OBS.	Ensure that the point cloud data image is correct.
400	ModelArts.4376	Unsupported pc pcd format error	The PCD attribute is not supported.	Check the point cloud data in PCD format.
400	ModelArts.4377	Pc pcd format error	Failed to parse the point cloud data in PCD format.	Ensure that the PCD file is valid.
400	ModelArts.4378	Parse pc pcd file error	Failed to parse the point cloud data in PCD format.	Ensure that the PCD file is correct.
400	ModelArts.4379	Unsupported pc file format error	The point cloud data format is not supported.	Ensure that the imported point cloud data is in BIN or PCD format.
400	ModelArts.4380	Parse kitti calibration file error	Failed to parse the Kitti data.	Ensure that the data is correct.
400	ModelArts.4381	Dataset is publishing, annotation is forbidden	Sample labeling is not allowed because a publish task is being executed in the dataset.	Wait until the publish task is complete.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4382	Generate 2d image error	Failed to generate a 2D image.	Ensure that the point cloud data is correct.
400	ModelArts.4384	Invalid export parameter	Invalid parameter.	Ensure that all mandatory parameters are included and valid.
400	ModelArts.4391	Task name is invalid	An auto deploy task whose name is the task_name value already exists in the dataset.	Ensure that the task name is correct.
400	ModelArts.4392	Task failed	Failed to create or run the dataset.	Ensure that the parameters and task resources are correct.
400	ModelArts.4393	Task stopped	The dataset task has been stopped.	Check the status of the dataset task with the specified ID.
400	ModelArts.4396	Parameter is invalid	Invalid parameter.	Ensure that the import task parameters are correct.
400	ModelArts.4398	Invalid system language.	The system language is invalid.	Check whether the system language is supported.
400	ModelArts.4399	Type match error	The dataset type does not match the algorithm model.	Ensure that the algorithm model is correct.
400	ModelArts.4400	Can not get table schema	Failed to obtain the schema information from the OBS directory.	Ensure that the CSV file in the OBS directory is correct.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4401	Failed to export data.	Exporting data failed. The dataset file cannot be copied to the repository.	Take other measures to export data.
400	ModelArts.4404	Can not get table schema from DLI	Failed to obtain the schema information from DLI.	Ensure that the request parameters are correct.
400	ModelArts.4405	Dataset must contains labels to start automation labeling	Labeled samples must be available for enabling auto labeling.	Add new labeled samples to the dataset.
400	ModelArts.4406	Dataset must contains labels with at least five images to start automation labeling	The number of samples to be labeled for each label cannot be less than 5.	Ensure that each label has at least five samples.
400	ModelArts.4407	Dataset must contains unlabeled files	The dataset must contain samples that have not been labeled.	Ensure that there are unlabeled samples in the dataset.
400	ModelArts.4408	Dataset contains labels shape not bndbox	The label shape cannot be bounding box.	Ensure that the shape attribute is correct.
400	ModelArts.4409	Running tasks has exceed the max threshold	The number of tasks that are being executed in the dataset has reached the maximum allowed limit.	Try again later.
400	ModelArts.4410	Label not found	The label does not exist.	Ensure that the label name is correct.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4411	Label already exists	The new label list contains existing label names.	Ensure that the label names are correct.
400	ModelArts.4412	Label shortcut already exists	The label shortcut already exists.	Change the label shortcut.
400	ModelArts.4413	Label is incompatible with annotation rules	The label attribute does not comply with specifications.	Ensure that the label attribute complies with specifications.
400	ModelArts.4414	Triplet label's from_entity or to_entity does not exist	The entity label does not exist in the triplet label.	Ensure that the entity label in the triplet label is available.
400	ModelArts.4415	Entity label can not be deleted because it is used by triplet label	Failed to delete the entity label because it is being used in the triplet label.	Wait until the label is not used in the triplet label and try again.
400	ModelArts.4416	Sync tags error	Failed to synchronize labels in the team labeling task.	Ensure that the synchronization task parameters are correct.
400	ModelArts.4417	Update sample labels failed when upload sample and labels	Failed to update the sample labels.	Ensure that the labels are correct.
400	ModelArts.4418	Label property mask_gray_value already exists	Duplicate tag mask_gray_value.	Ensure that the tag mask_gray_value is correct.
400	ModelArts.4420	Sample not found	The sample with the specified ID does not exist.	Ensure that the sample ID is correct.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4421	Upload sample failed	Failed to upload the sample to the dataset.	Ensure that the uploaded sample type and data are correct.
400	ModelArts.4422	Sample already exists	The sample that is being imported already exists.	Enter that the imported sample is correct.
400	ModelArts.4423	Get sample size failed, please input size manually	Incorrect size of the image obtained from the object detection dataset.	Manually set the image size.
400	ModelArts.4425	Label property mask_gray_value is incompatible with defined value	The mask_gray_value value cannot be changed.	Ensure that the mask_gray_value value is not changed.
400	ModelArts.4426	Dataset must contain tags to start auto deploy	The label set of the dataset cannot be empty.	Create labels for the dataset.
400	ModelArts.4427	Dataset must contain tags with at least five images to start auto deploy	The number of samples to be labeled for each label cannot be less than 5.	Ensure that each label has at least five samples.
400	ModelArts.4428	The label attribute name already exists.	The label attribute name already exists.	Configure another attribute name.
400	ModelArts.4429	The label attribute value already exists.	The label attribute value already exists.	Configure another attribute value.
400	ModelArts.4430	The label attribute or value does not exist.	The label attribute or value does not exist.	Check the label attribute and value.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4502	The IAM agency name already exists, please delete the agency in IAM first and retry	The default IAM agency already exists.	Delete the IAM agency and create a new one.
400	ModelArts.4503	Failed to create the DLI agency.	Creating the DLI agency failed.	Check the DLI agency.
400	ModelArts.4506	The sub-service was not found.	The sub-service does not exist.	Check whether the sub-service to be accessed is available.
400	ModelArts.4507	The specification code was not found.	The flavor code does not exist.	Internal error. Contact technical support.
400	ModelArts.4550	Workspace clearing error.	An error occurred in clearing the workspace.	Handle carbon reader exceptions.
400	ModelArts.4551	You are not allowed to delete workspace resources.	You do not have permission to delete workspace resources.	Check your permissions.
400	ModelArts.4552	ModelArts workspace error.	An error occurred in the ModelArts workspace.	Check identity authentication in the workspace.
400	ModelArts.4601	The workforce does not exist	The team ID does not exist.	Ensure that the team ID is correct.
400	ModelArts.4602	The workforce already exists	A team whose name is the workforce_name value already exists.	Ensure that the workforce_name value is correct.
400	ModelArts.4603	Update workforce state failed	Failed to delete the team.	Check whether the team has been deleted.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4604	The worker does not exist	The team member specified by work_id does not exist.	Ensure that the workforce_id and work_id values are correct.
400	ModelArts.4605	The worker already exists	The team member whose value is the email value already exists.	Ensure that the email value is correct.
400	ModelArts.4607	Failed to reset the password.	Requesting to reset the password failed.	The username is incorrect, or the password reset email cannot be sent to the account.
400	ModelArts.4609	Change password failed	Failed to change the account password.	Ensure that the new password complies with specifications.
400	ModelArts.4612	Task not found	The task ID does not exist.	Ensure that the task ID is correct.
400	ModelArts.4615	Workforce task is unfinished	The version cannot be switched because the team labeling task has not been completed.	Wait until the team labeling task is complete and try again.
400	ModelArts.4616	Too many unfinished tasks.	There are too many unfinished tasks.	Finish tasks.
400	ModelArts.4617	The number of manager should be one	The team manager already exists.	Ensure that the roles of the team members are correct.
400	ModelArts.4618	Can not delete yourself	You cannot delete yourself from the team.	Ensure that the request parameters are correct.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4619	Workforce task does not exist	No team labeling task whose ID is the workforce_task_id value is allowed.	Ensure that the workforce_task_id value is correct.
400	ModelArts.4620	The workforce task already exists	A team labeling task whose name is the task_name value already exists.	Ensure that the task_name value is correct.
400	ModelArts.4621	Failed to start the team labeling task.	The team labeling task cannot be started.	Check the task.
400	ModelArts.4622	Invalid n_clusters, should less than the total number of samples	The number of groups has reached the maximum allowed limit.	Check whether the number of groups is less than the total number of samples.
400	ModelArts.4623	Workforce task is checking	Only one review task is allowed at a time.	Wait until all existing review tasks are complete and try again.
400	ModelArts.4624	The member task is not checked.	The member task is not checked.	Check the task.
400	ModelArts.4625	There are no unchecked samples.	There are no unchecked samples.	Obtain unchecked samples.
400	ModelArts.4627	Request notify too frequently	Frequent notification request submission.	Try again later.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4628	Can not delete worker who has task	The team member cannot be deleted because the labeling task has not been completed.	Notify the member to complete the task.
400	ModelArts.4631	The task does not exist.	The task does not exist.	Check the task.
400	ModelArts.4633	The IAM user has been associated.	The IAM user has been associated.	Ensure the IAM user has not been associated.
400	ModelArts.4634	Failed to frequently reset the password.	Frequently resetting the password failed.	Request to reset the password up to once within 300s.
400	ModelArts.4635	The IAM account has been associated.	The IAM account has been associated.	Ensure the IAM account has not been associated.
400	ModelArts.4636	The task does not exist.	The task does not exist.	Ensure the task is available.
400	ModelArts.4637	Deleting the default labeling task is forbidden.	Do not delete the default labeling task of a dataset.	When you create a dataset of the old version, the system automatically creates a labeling task for the dataset. If you delete the default labeling task, the dataset may become unavailable. To delete the task, delete the dataset.
400	ModelArts.4650	Interactive operations not found	Incorrect interactive_operations value.	Ensure that the interactive_operations value is correct.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4651	Get obs sample error	Failed to read the sample from OBS.	Ensure that the sample in OBS is correct.
400	ModelArts.4654	Inference execution error.	An error occurred during inference execution.	Check inference logs.
400	ModelArts.4656	Sample oversized.	The sample is oversized.	Ensure the size of a sample is not larger than 12,582,912 bytes.
400	ModelArts.4700	Task does not exist	The task ID does not exist.	Ensure that the task ID is correct.
400	ModelArts.4701	Can not start data analysis task, dataset version annotation type must be 'Image Classification' or 'Object Detection'	The dataset type does not support feature analysis.	Ensure that the dataset type is correct.
400	ModelArts.4702	Can not start data analysis task, dataset version must be 'Default' format	The dataset format does not support feature analysis.	Use the default dataset format.
400	ModelArts.4703	Can not start data analysis task, dataset version must contains annotated samples	Feature analysis cannot be performed because there is no labeled sample in the dataset.	Ensure that there are labeled samples in the dataset.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4704	Currently unable to start data analysis task, Please try again later	Feature analysis cannot be performed because a dataset version is being published.	Try again later.
400	ModelArts.4705	Oversized file to be downloaded.	The OBS file is oversized.	Use an image whose size is less than 12 MB.
400	ModelArts.4706	Can not start data analysis task, dataset version status must be normal	Feature analysis cannot be performed because the dataset version is not in normal state.	Ensure that the current dataset version is in normal state.
400	ModelArts.4707	Failed to obtain file %s from OBS %s.	Obtaining the temporary OBS download URL failed.	Ensure the OBS URL is correct.
400	ModelArts.4709	Data preprocessing task already exists	A training task whose name is the name value already exists.	Ensure that the name value is correct in the request for creating in the task.
400	ModelArts.4710	Dataset export file error	Failed to publish or export the dataset.	Ensure that the task export or publish parameters are correct.
400	ModelArts.4711	Publishing requires splitting but annotated samples do not satisfied for splitting rules	Failed to publish because the dataset label samples do not meet splitting requirements.	Ensure that the number of dataset labels and the number of labeled samples meet the splitting requirements.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4712	Dataset publish version failed	Failed to publish the dataset version.	Ensure that the task export or publish parameters are correct.
400	ModelArts.4714	The number of dataset versions has reached the quota limit.	The number of dataset versions has reached the quota limit.	Ensure the number of dataset versions does not exceed the quota limit.
400	ModelArts.4715	Incorrect data analysis result.	The data analysis result is incorrect.	Check the result of data analysis for handling OBS errors.
400	ModelArts.4716	Abnormal AI Gallery.	AI Gallery is not running properly. Calling the AI Gallery API getVersionDetail failed.	Rectify the fault.
400	ModelArts.4717	Failed to execute the fulfillment task by AI Gallery.	AI Gallery failed to execute the fulfillment task.	Obtain details about the fulfillment task.
400	ModelArts.4760	Failed to encrypt data.	Encrypting data failed.	Check the input.
400	ModelArts.4800	The label task already exists	A labeling task whose name is the task_name value already exists.	Ensure that the task_name value is correct.
400	ModelArts.4801	The label task not exists	The labeling task specified by the ID does not exist.	Ensure that the imported task ID is correct.
400	ModelArts.4820	Unsupported operation, label task type is %s	The labeling task type does not support the operation.	Ensure that the labeling task type is correct.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4822	The number of labelers must exceed 1	At least two annotators are available in the team.	Check the number of annotators in the team.
400	ModelArts.4823	Import to dataset version error	No data can be imported to a table dataset version.	Ensure that the dataset type is correct.
400	ModelArts.4824	Dataset version status must be normal	Abnormal dataset version state.	Check the version publish state of the dataset.
400	ModelArts.4825	Dataset version is empty	No sample is available in the dataset version.	Check the version publish result of the dataset.
400	ModelArts.4827	Dataset version delete failed	Failed to delete the dataset version because there is a labeling task based on the dataset version.	Check whether there is any labeling task that is created using the dataset version.
400	ModelArts.4828	Failed to delete the version.	The version in the current state cannot be deleted.	Change the version state.
400	ModelArts.4851	Task version not found	The version specified by version_id does not exist.	Ensure that the version_id value is correct.
400	ModelArts.4852	Error in downloading task version logs.	An error occurred in downloading task version logs.	Check the training log URL.
400	ModelArts.4853	Insufficient quota for data feature tasks.	The quota for data feature tasks is insufficient.	Delete unnecessary tasks.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4854	Insufficient quota for data feature versions.	The quota for data feature versions is insufficient.	Delete unnecessary versions.
400	ModelArts.4860	Insufficient quota for real-time services.	The quota for real-time services is insufficient.	Check the remaining quota for real-time services.
400	ModelArts.4861	Insufficient quota for batch services.	The quota for batch services is insufficient.	Check the remaining quota for batch services.
400	ModelArts.4870	HBase error.	An error occurred in HBase.	Rectify the fault in batch deletion.
400	ModelArts.4902	Access prohibited because the app-auth API was not associated with APIG app %s.	The target app is not authorized.	Ensure AppCode is allowed to access the target service.
400	ModelArts.4903	Access prohibited because the app-auth API was not associated with a signature key.	The app authentication API is not associated with a signature key.	Internal error. Contact technical support.
400	ModelArts.4904	Access prohibited because the app-auth API was not associated with signature key %s.	The app authentication API is not associated with the signature key.	Internal error. Contact technical support.
400	ModelArts.4905	Failed to check the authorization request header.	Checking the authorization request header failed.	Use the correct AppCode URL or contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4907	Failed to submit the training job.	Submitting the training job failed.	Check whether the algorithm is available.
400	ModelArts.4909	Failed to execute the training job.	Executing the training job failed.	Check training logs to identify the failure cause.
400	ModelArts.4911	Failed to create the model import task.	Creating the model import task failed because the task ID is left blank.	Specify the task ID.
400	ModelArts.4913	Failed to execute the model import task.	Executing the model import task failed due to task timeout.	Identify the failure cause of task timeout.
400	ModelArts.4915	Failed to create the auto labeling task.	Creating the auto labeling task failed.	Identify the failure cause of task creation.
400	ModelArts.4917	Failed to execute the auto labeling task.	Executing the auto labeling task failed due to task timeout.	Identify the failure cause of task timeout.
400	ModelArts.4921	Failed to execute the import task.	Executing the import task failed.	Identify the failure cause.
400	ModelArts.4927	Failed to submit hard example collection.	Submitting hard example collection failed because the task ID is left blank.	Specify the task ID.
400	ModelArts.4929	Failed to collect hard examples.	Collecting hard examples failed due to task timeout.	Identify the failure cause of task timeout.
400	ModelArts.4934	Invalid model.	The model is invalid.	Use a valid model.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4935	Failed to create the medical task.	Creating the medical task failed.	Identify the failure cause of task creation.
400	ModelArts.4951	Failed to create the auto inference task.	Creating the auto inference task failed.	Identify the failure cause of task creation.
400	ModelArts.4953	Failed to execute the auto inference task.	Executing the auto inference task failed due to task timeout.	Identify the failure cause of task timeout.
400	ModelArts.4963	Failed to execute the auto grouping task.	Executing the auto grouping task failed due to task timeout.	Identify the failure cause of task timeout.
400	ModelArts.4991	Failed to obtain the job status.	The specifications have exceeded the quota for free specifications.	Switch to billed specifications or wait until resources are released.
400	ModelArts.4992	Resources sold out.	The resources have been sold out.	Use available resources.
400	ModelArts.4999	System error.	An error occurred in the system.	Wait until the UI adapts to the new mechanism.
400	ModelArts.5011	Invalid parameter	Invalid parameter.	Modify the parameter.
400	ModelArts.5012	Invalid product attribute	Invalid product attribute.	Modify the product attribute.
400	ModelArts.5016	The original model ({0}) does not exist during model release	The product source model does not exist.	Select another source model.
400	ModelArts.5022	Unsupported model type	The model type is not supported.	Select another source model.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.5025	Incorrect verification code	Incorrect verification code.	Enter the correct verification code.
400	ModelArts.5026	Verification code expired	Verification code expired.	Obtain a new verification code.
400	ModelArts.5027	The verification code does not match the email address.	The email address and verification code do not match.	Obtain a new verification code.
400	ModelArts.5038	You must first get a verification code	You have not obtained the verification code.	Specify your email address and obtain the verification code by email.
400	ModelArts.5041	Duplicate version. Refresh the page and try again	Duplicate version.	Refresh the page and try again.
400	ModelArts.5042	The order has been paid.	The order has been paid.	The order has been paid. Do not pay again.
400	ModelArts.5047	HiLens product name duplicated.	Duplicate HiLens name.	Enter another product name.
400	ModelArts.5048	HiLens skill version duplicated.	Duplicate HiLens version.	Select another version.
400	ModelArts.5049	Incorrect HiLens skill. Select the skill corresponding to the offering.	Incorrect HiLens skill.	Select the correct HiLens skill.
400	ModelArts.5051	The HiLens skill type is not supported. Release the skill type in HiLens Studio.	The HiLens skill is currently unavailable. Publish the skill in HiLens Studio.	Select the correct HiLens skill.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.5052	The user does not have the agency permission	You do not have the agency permission.	Set an agency and try again.
400	ModelArts.5061	The size of the image is too large.	The size of the image is too large.	Please upload an image smaller than 7 MB.
400	ModelArts.5062	The number of the images uploaded today has reached the limit.	The number of the images uploaded today has reached the limit.	Please upload the image the next day.
400	ModelArts.5063	Illegal image or image name.	Illegal image or image name.	Please Upload a correct image file.
400	ModelArts.5064	Maximum upload size exceeded of HTTP request.	Maximum upload size exceeded of HTTP request.	Please reduce the file size and upload it again.
400	ModelArts.5070	The activity is in progress.	The activity is in progress.	Activity is in progress, can't delete.
400	ModelArts.5071	The activity is not start.	The activity is not start.	Activity that have not started cannot be registered.
400	ModelArts.5072	The activity has end.	The activity has end.	Activity that have ended cannot be registered.
400	ModelArts.5073	The activity has registered.	The activity has registered.	The activity has already been registered. Do not register again.
400	ModelArts.5075	The license is already expired.	The license is already expired.	Please purchase quotas again.
400	ModelArts.5076	The license remaining is insufficient.	The license remaining is insufficient.	Please purchase quotas in time.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.5077	The consumption is expired or expire soon.	The consumption is expired or expire soon.	Please purchase quotas in time.
400	ModelArts.5303	The obs source data is empty	Empty source data.	Select other source data.
400	ModelArts.5304	The maximum number of files has been exceeded	The number of files has reached the maximum allowed limit.	Select other source data or reduce the data volume.
400	ModelArts.5305	The maximum size of files has been exceeded	The file size has reached the maximum allowed limit.	Select other source data or reduce the data volume.
400	ModelArts.5306	The maximum depth of files has been exceeded	The file depth has reached the maximum allowed limit.	Select other source data or reduce the data depth.
400	ModelArts.5309	Only allow edge service published to AIHub.	Only edge VAS can be published.	Select the edge VAS.
400	ModelArts.5312	Only allow market category service published to AIHub.	Only market VAS can be published.	Select the market VAS.
400	ModelArts.5313	Only allow released service published to AIHub.	Only published VAS is allowed.	Select the published VAS.
400	ModelArts.5314	Only allow 'closed Beta Test' stage service published to AIHub.	Only Closed Beta Test VAS can be published.	Select the Closed Beta Test VAS.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.5315	Request is repeated submit.	This request is repeated submit.	Do not submit the request again.
400	ModelArts.6301	The instance already exists.	The instance already exists.	Enter another instance name.
400	ModelArts.6302	The instance count already reaches the maximum value.	The maximum number of instances has been reached.	Delete unnecessary instances.
400	ModelArts.6303	The field does not support sorting.	This field does not support sorting.	Delete the field from the sorting parameters.
400	ModelArts.6304	Please stop the instance before deleting.	Failed to delete the instance in the running state.	Refresh the page. Stop the instance and then delete it.
400	ModelArts.6305	The instance is already running.	The instance is in the running state.	Do not start it again.
400	ModelArts.6306	The instance is starting.	Other operations cannot be performed because the instance is being started.	Perform other operations later.
400	ModelArts.6307	The instance has already been stopped.	The instance has been stopped.	Refresh the page and view the instance state.
400	ModelArts.6308	The instance is stopping.	The instance is being stopped.	Refresh the page and view the instance state.
400	ModelArts.6309	The instance does not exist.	The instance does not exist.	Ensure that the instance has been deleted.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.6316	The param 'storage' is needed for creating notebook instance.	Incorrect parameters during instance creation.	Add the storage parameter.
400	ModelArts.6317	The 'path' parameter is required when the storage type is OBS.	Incorrect parameters during instance creation.	Add the path parameter.
400	ModelArts.6318	The param 'path' needs to end with /.	Incorrect parameters during instance creation.	Ensure that the value of the path parameter ends with a slash (/).
400	ModelArts.6319	There is no ak/sk in the global settings. Please add it by access ModelArts console.	The AK/SK have not been configured in the global settings of ModelArts.	Configure the AK/SK in the global settings of ModelArts.
400	ModelArts.6320	Access obs error. Reason is {}.	OBS access error.	Ensure that the OBS path is correct.
400	ModelArts.6323	The flavor is not supported, please check it.	The flavor is not supported.	Ensure that the flavor is correctly configured.
400	ModelArts.6324	This location type is not supported. Please check it.	The storage type is not supported.	Ensure that the storage type is correctly configured.
400	ModelArts.6326	The instance is frozen. Check whether your account is in arrears in Billing Center.	The instance has been frozen.	Check the account balance and top up the account.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.6327	The instance is not in running. Please refresh the page and start it.	The instance is not in the running state.	Refresh the page and try again.
400	ModelArts.6328	Sorry, you currently do not have permission for this flavor. Please apply it firstly.	You do not have permission to use the flavor.	Contact technical support.
400	ModelArts.6329	Sorry, this flavor specification is sold out. Please try others.	The flavor is sold out.	Use another flavor or try again later.
400	ModelArts.6330	The flavor type of profile does not match the type of flavor. Please check it.	The types are not matched.	Ensure that the flavor type matches the profile type.
400	ModelArts.6331	The evs volume size ranges from {} GB to {} GB.	The EVS disk size exceeds the upper limit.	Check the EVS disk size.
400	ModelArts.6332	Incorrect parameter type. The '{}' parameter must be of the '{}' type.	Parameter type error.	Ensure that the parameter type meets the requirements.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.6333	The notebook is being restored. Refresh the page and wait for several minutes. The fault may be caused by instance overload.	Notebook instance fault.	The instance is recovering. Try again later.
400	ModelArts.6334	Invalid value for name or description. The character `{}` is not allowed.	The description parameter is incorrect.	Enter a valid description value.
400	ModelArts.6335	`{}` is a required property.	Parameter missing.	Ensure that the corresponding parameter is available.
400	ModelArts.6336	`{}` property value is incorrect.	Incorrect parameter value.	Ensure that the corresponding parameter is correct.
400	ModelArts.6341	The repository does not exist or has been deleted.	The Git repository does not exist or has been deleted.	Check the corresponding parameter.
400	ModelArts.6343	The repository name already exists.	The Git repository already exists.	Check the corresponding parameter.
400	ModelArts.6344	Delete failed. Please delete the associated development environment instance first.	Failed to delete the repository.	Delete the corresponding notebook instance first.
400	ModelArts.6345	Currently the OBS type instance does not support git capability.	The Git repository cannot be used for OBS instances.	Use notebook instances of the EVS type.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.6346	The timestamp of auto stop must be later than the current timestamp.	This parameter cannot be modified.	Check the corresponding parameter and ensure that the automatic end time is later than the current time.
400	ModelArts.6347	When the instance is in the '{}' status, the '{}' parameter cannot be modified.	Failed to modify the parameter.	Check the corresponding parameter.
400	ModelArts.6348	The 'duration' parameter is mandatory for enabling auto stop.	The description parameter is missing.	Configure the duration parameter.
400	ModelArts.6349	The 'duration' parameter is incorrect. The value ranges from {} to {}.	The value of duration parameter exceeds the threshold.	Configure the duration parameter.
400	ModelArts.6350	Failed to access OBS because of incorrect AK/SK or insufficient permissions.	Access to OBS is rejected.	Ensure that the AK/SK is correct and you have the permission to access OBS.
400	ModelArts.6353	Failed to verify the AK/SK. Please check and try again.	Incorrect AK/SK.	Ensure that the AK/SK in the global settings of ModelArts is correct.
400	ModelArts.6354	The AK/SK do not belong to the user. Please check and enter the correct ones.	Incorrect AK/SK.	Ensure that the AK/SK in the global settings of ModelArts is correct.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.6355	The resource is initializing. Please wait one minute and try again.	Resources in the dedicated resource pool are being initialized.	Try again later.
400	ModelArts.6357	The operation is not allowed because another operation is being performed on the instance or the instance is in the target state.	The operation is not allowed.	Try again later.
400	ModelArts.6358	The path parameter is incorrect. It cannot be the root directory of an OBS bucket, but must be a specific directory in the OBS bucket.	The OBS path parameter is incorrect.	Ensure that the path parameter is correct.
400	ModelArts.6360	Failed to start the notebook due to insufficient background resources. Try again later.	Failed to start the notebook due to insufficient background resources. Try again later.	Try again later or contact technical support.
400	ModelArts.6361	ModelArts internal service or configuration error. Submit a service ticket to get professional technical support.	Internal error.	System error. Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.6371	Currently, notebooks support only OBS buckets whose Storage Class is Standard. Change the OBS bucket and try again.	Notebook instances support only standard OBS buckets.	Use standard OBS buckets.
400	ModelArts.6374	The credential can be added only when type is set to AK/SK or agency.	The authentication type can only be AK/SK or agency.	Ensure that the authentication type is AK/SK or agency.
400	ModelArts.6376	Please make sure agency exists.	The IAM agency does not exist.	Ensure that the agency exists on IAM.
400	ModelArts.6377	The user id cannot be left blank.	The user ID cannot be left blank.	Ensure that the user ID parameter is available.
400	ModelArts.6378	The agency name cannot be left blank.	The agency name cannot be left blank.	Ensure that the agency name parameter is available.
400	ModelArts.6379	No IAM agency created in Settings. Create an IAM agency on the ModelArts management console.	No agency is created in the global settings.	Create an agency in the global settings.
400	ModelArts.6400	Invalid request payload {0}, please check.	Invalid request payload {0}, please check.	Check the request body.
400	ModelArts.6528	No EVS available. Please try again later.	The EVS disk has been sold out.	Try again later or contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.6600	Check whether the parameter is valid.	Failed to verify the parameters.	Ensure that the parameter is valid.
400	ModelArts.6651	Unsupport entity.	Unsupported project objects.	Ensure that the project object is supported.
400	ModelArts.6652	Please delete resources from the project first.	Failed to delete the project resources.	Delete the datasets and notebook instances under the project and ensure that all training jobs have been completed.
400	ModelArts.6690	The image size cannot exceed 8 MB.	The image size exceeds 8 MB.	Ensure that the image size does not exceed 8 MB.
400	ModelArts.6716	The specified flavor {0} is already sold out.	The specified flavor {0} is already sold out.	Select another flavor or contact technical support.
400	ModelArts.6737	Conflict tag {0} for image {1}, tag cannot be duplicated.	Conflict tag {0} for image {1}, tag cannot be duplicated.	Enter a proper image tag.
400	ModelArts.6763	Cannot manage the pool, The cluster version is earlier than v1.15.	Cannot manage the pool, The cluster version is earlier than v1.15.	Please upgrade the cluster version.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.6771	Cannot register the image since the size of the registered image {0}/{1}: {2} is {3} bytes, which has reached the maximum of {4} bytes. If the size of the image is too large, the image will fail to be decompressed	Cannot register the image since the size of the registered image {0}/{1}: {2} is {3} bytes, which has reached the maximum of {4} bytes. If the size of the image is too large, the image will fail to be decompressed	Check the image size.
400	ModelArts.6782	Mounting OBS bucket or folder does not support in current authentication mode, add AK/SK in ModelArts global settings to enabled it.	Mounting OBS bucket or folder does not support in current authentication mode, add AK/SK in ModelArts global settings to enabled it.	Please add AK/SK to ModelArts Global Settings.
400	ModelArts.6789	The current user does not have the permission to use the SSH key pair {0}, please update the key pair of the instance and try again.	The current user does not have the permission to use the SSH key pair {0}, please update the key pair of the instance and try again.	Update the key pair of the instance and restart the instance.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.6792	Instance {0} does not support to update flavor to {1}, please try another flavor.	Instance {0} does not support to update flavor to {1}, please try another flavor.	Select another flavor.
400	ModelArts.6797	Specified image {0} cannot be found.	Specified image {0} cannot be found.	Check the image access permission.
400	ModelArts.6870	Specified flavor {0} does not support current instance feature {1}.	Specified flavor {0} does not support current instance feature {1}.	Select a proper flavor.
400	ModelArts.7002	Not gray user, please contact the administrator	Workspace authentication error.	Contact the administrator to check whether the user has permissions on the workspace.
400	ModelArts.7003	no permission to get iam user list, please check permission	IAM permissions are incorrect.	Add the IAM permissions based on the error message.
400	ModelArts.7004	the status of workspace: {workspaceID} is abnormal, can not execute [action: {action}]	You are not allowed to create resources when a workspace is in the normal state, for example, a deleted or failed workspace.	Create resources in a normal workspace.
400	ModelArts.7005	workspace: {workspace} not existed	The workspace does not exist.	Ensure that the transferred workspace ID exists.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.7006	workspace number over limit, limit: {limit}	The number of workspaces exceeds the upper limit.	Delete unnecessary workspaces.
401	ModelArts.0112	Failed to execute the policy.	The user role is not allowed to execute the policy.	Check user role permissions.
401	ModelArts.0201	Token doesn't exist.	The token is empty.	Add a correct token in the request header.
401	ModelArts.0202	Invalid token header because the token has expired.	The token has expired.	Use a valid token.
401	ModelArts.0203	Invalid token.	The token cannot be parsed.	Use a valid token.
401	ModelArts.0204	Failed to parse the token.	Parsing the token failed.	Use a valid token.
401	ModelArts.0205	No authorization request header.	The authorization request header is missing.	Use the correct AppCode URL or contact technical support.
401	ModelArts.0206	Incorrect authorization request header format.	The authorization request header is in an incorrect format.	Use the correct AppCode URL or contact technical support.
401	ModelArts.0207	Token must contain project info of current region.	Add project information to the token.	Add project information to the token.
401	ModelArts.0208	Failed to check the authorization request header.	Checking the authorization request header failed.	Use the correct AppCode URL or contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
401	ModelArts.0209	No key appld in header.	The appld request header is missing.	Use the correct APIG URL.
401	ModelArts.0210	No key apild in header.	The apild request header is missing.	Use the correct APIG URL.
401	ModelArts.0212	Invalid token header because the token does not contain a project.	The token does not contain any project information.	Use a project-level token.
401	ModelArts.0428	The user authorization does not exist.	The user authorization does not exist.	Check whether the user agency is authorized.
401	ModelArts.3801	User credential (AK and SK) does not exist.	The user certificate does not exist.	Add the AK/SK again.
401	ModelArts.4117	User is unverified.	User is unverified.	Please check the user has been authorized by IAM.
401	ModelArts.4119	Invalid RBAC.	The project ID in the token is left blank.	Add the correct project ID in the token.
401	ModelArts.4127	Token authentication expired.	The token authentication has expired.	Obtain the user token again.
401	ModelArts.4201	Invalid token.	The token is invalid.	Check the token of the account to which the user belongs.
401	ModelArts.4203	Invalid request because %s.	You do not have the access permission.	Ensure you have the access permission.

Status Code	Error Codes	Error Message	Description	Solution
401	ModelArts.4504	Iam error	IAM error.	Ensure that the AK/SK or token is correct.
401	ModelArts.4505	The operation on the IAM user is not allowed.	No operation is allowed on the IAM user list.	Do not perform operations on the IAM user list.
401	ModelArts.4506	Failed to check the IAM service ticket.	Checking the IAM service ticket failed.	Check the IAM service ticket.
401	ModelArts.4626	Failed to update the team or team manager.	Updating the team or team manager failed.	Identify the failure cause.
401	ModelArts.4629	Failed to delete the member.	Deleting a member failed.	Identify the failure cause.
401	ModelArts.4630	No permission.	The user does not have permission to perform the operation.	Ensure the user has permission to perform the operation.
401	ModelArts.4632	Unregistered member.	The member has not been registered.	Ensure the member is registered.
401	ModelArts.4713	Forbidden operation.	This operation is not allowed because there are uncompleted asynchronous tasks of dataset hashing.	Ensure all asynchronous tasks of dataset hashing are complete.
401	ModelArts.4750	Error in reading files from OBS.	An error occurred in reading files from OBS.	Identify the failure cause.
401	ModelArts.4804	Failed to create a label task by the member.	The team member failed to create a label task.	Do not create a label task as a team member.

Status Code	Error Codes	Error Message	Description	Solution
401	ModelArts.4826	OBS KMS encryption buckets are not supported.	OBS KMS encryption buckets are not supported.	Do not use OBS KMS encryption buckets.
401	ModelArts.4901	Failed to prepare a training job.	Preparing a training job failed.	Authorizing onObs failed. Check the IAM proxy or OBS.
401	ModelArts.4961	Failed to submit an auto grouping job.	Submitting an auto grouping job failed.	Authorizing onObs failed. Check the IAM proxy or OBS.
401	ModelArts.5001	Token is blank	The token does not exist.	Add the token and try again.
401	ModelArts.5002	Token is invalid	Invalid token.	Obtain a token and try again.
401	ModelArts.5056	You do not have the permission to access the requested resource.	You have not subscribed to HiLens.	Log in to the HiLens management console and subscribe to the service.
401	ModelArts.5402	Enterprise certification is required first.	Enterprise certification is required first.	Please perform enterprise authentication first.
401	ModelArts.6201	The user's account has been suspended.	The user account is frozen.	Check the account balance and top up the account.
401	ModelArts.6203	The user's account has been restricted.	The user account is restricted.	Check the account balance and top up the account.
401	ModelArts.6608	Please refresh user info.	Failed to obtain the user information.	Refresh the user information.

Status Code	Error Codes	Error Message	Description	Solution
401	ModelArts.6620	Please refresh the user token.	Invalid user token.	Refresh the user token.
403	ModelArts.0108	You are not authorized to perform the ({0}) operation.	You do not have permission to perform {0}.	Check whether you are authorized to perform operations on OBS or APIs.
403	ModelArts.0112	Policy doesn't allow {} {} to be performed.	The permission on the workspace is restricted.	Ensure that you have the permission on the workspace.
403	ModelArts.0203	Invalid token.	Invalid token.	Obtain a new token and try again.
403	ModelArts.0206	Invalid AK/SK.	Invalid AK/SK.	Check whether the token is valid.
403	ModelArts.0210	The project id in the request URL does not match the token.	The project ID in the request URL and the token do not match.	Use the correct project ID to generate a token.
403	ModelArts.2784	InvalidToken	Invalid token.	Check the request token.
403	ModelArts.2785	Authorization NotFound	You cannot use ModelArts because you have not authorized ModelArts.	Please go to the Settings page to authorize ModelArts.
403	ModelArts.2852	FederationOperationDeny	Federation participant does not have permission to do this.	Contact the federation owner to do this.

Status Code	Error Codes	Error Message	Description	Solution
403	ModelArts.3010	Failed to copy model, you don't have permission to copy the model ({0}).	You do not have the permission to copy model {0}.	Check whether the entered token or model ID is correct.
403	ModelArts.3075	Model ({0}) is a subscription model and cannot create a new version.	Failed to create a new version because model {0} has been subscribed.	No new version can be created for a subscribed model.
403	ModelArts.3555	Forbidden to access ECS.	You do not have the permission to access the ECS.	Authorize access to the ECS and try again.
403	ModelArts.3936	The app-auth API {id} does not belong to service {id}.	The API {ID} that supports application authentication does not belong to the service {ID}.	Check the request parameter or contact service O&M personnel.
403	ModelArts.4102	Token parsing error because role te_agency is not configured for the Ai-service admin token.	The cloud service proxy token does not contain the te_agency role.	Internal error. Contact technical support.
403	ModelArts.4116	User has been owed, please check the account status and balance.	User has been owed, please check the account status and balance.	Please check account balance.
403	ModelArts.4118	User has been suspended, please check the account balance.	User has been suspended, please check the account balance.	Please check the account balance.

Status Code	Error Codes	Error Message	Description	Solution
403	ModelArts.4310	OBS action is forbidden, please check iam agency or OBS and so on	You do not have permission to access OBS.	Grant the permission to access OBS.
403	ModelArts.4335	Iam agency is invalid	Invalid IAM agency.	Check the IAM permission.
403	ModelArts.4336	The user hasn't permission	Restricted user permission.	Check the user permission.
403	ModelArts.4348	Check dli agency failed	Failed to create the agency for checking DLI.	Check the agency permission for checking DLI.
403	ModelArts.4419	File is too large	The size of the file imported from OBS or to be parsed has reached the maximum allowed limit.	Ensure that the file is correct.
403	ModelArts.4500	The number of iam agencies has reached the maximum	The number of IAM agencies exceeded the upper limit.	Delete unused IAM agencies.
403	ModelArts.4501	The iam agency create action is forbidden	Failed to create the IAM agency.	Ensure that you have permission to create an IAM agency.
403	ModelArts.4600	The worker action is forbidden	The team member cannot perform the operation.	Check whether the team member has permission to perform the operation.
403	ModelArts.4613	Task not finish	Failed to obtain the task result because the task execution has not been completed.	Try again later.

Status Code	Error Codes	Error Message	Description	Solution
403	ModelArts.4803	Dataset has unfinished label tasks, the operation is forbidden	Failed to delete data because the labeling task in the dataset has not been completed.	Ensure that all labeling tasks in the dataset are complete.
403	ModelArts.4821	Task is publishing, the operation is forbidden	The auto labeling task cannot be started because a labeling task is being published.	Try again after the labeling task is published.
403	ModelArts.4850	Process task is initializing, the operation is forbidden	Failed to delete the task because the processor task is being initialized.	Check the task status.
403	ModelArts.5013	The user is not registered. Please release a product first to complete the registration	You have not registered with AI Gallery.	Publish a product in AI Gallery for registration.
403	ModelArts.5014	Permission deny	You do not have permission to access the resource.	Access other resources.
403	ModelArts.5017	Account suspended.	Suspended account.	Ensure that the account is not restricted and try again.
403	ModelArts.5040	Your usage has exceeded the maximum quota	The resource usage has reached the maximum allowed limit.	Wait until the system is idle and try again.

Status Code	Error Codes	Error Message	Description	Solution
403	ModelArts.5043	Challenge applications submit failed	Failed to submit the contest.	System error. Contact technical support.
403	ModelArts.5045	Send verify code failed,please try again later.	Send verify code failed.	Please click to send the verification code again later.
403	ModelArts.5053	Product has been recycled.	The product has been reclaimed.	Select another product.
403	ModelArts.5054	At least one available version must exist.	At least one available version is required for the product.	Perform other operations.
403	ModelArts.5055	The subscription has expired.	The subscription has expired.	Initiate a new subscription.
403	ModelArts.5057	The free package is sold out.	The free package has been sold out.	Select another package.
403	ModelArts.6653	Contact the project owner.	You are not authorized to operate the project.	Contact the project owner to obtain the authorization.
404	ModelArts.2786	TokenProjectIDNotMatch	The project ID (%s) in the request does not match that(%s) in the token.	Change the request token or change the project ID in the request.
404	ModelArts.2836	PathNotFound	Path not found.	Please confirm that the PATH is correct
404	ModelArts.2881	ImageSaveJobNotExist	ImageSaveJob is not exist	Please check task_id
404	ModelArts.2890	PoolNotFound	Pool (%s) does not exist	Please check whether the pool exists

Status Code	Error Codes	Error Message	Description	Solution
404	ModelArts.3001	Model ({0}) does not exist.	Model {0} does not exist.	Check whether the entered model ID is correct.
404	ModelArts.3003	Failed to get model names list.	Failed to obtain the model name list.	Check whether the account is correct.
404	ModelArts.3019	Infer format ({0}) does not exist.	Input/Output mode {0} does not exist.	Change the input/output mode.
404	ModelArts.3021	Template ({0}) does not exist.	Template {0} does not exist.	Select another template.
404	ModelArts.3071	The subscription ({0}) does not exist.	Subscription {0} does not exist.	Subscribe to the model and try again.
404	ModelArts.3080	Model optimization job ({0}) does not exist.	Model optimization task {0} does not exist.	The task is unavailable.
404	ModelArts.3502	Service {name} does not exist.	The service {name} does not exist.	Ensure that the service name is correct.
404	ModelArts.3507	Model {name} does not exist.	The model {ID} does not exist.	Ensure that the model ID is correct.
404	ModelArts.3923	Application {id} does not exist.	The application {ID} does not exist.	Ensure that the application ID is correct.
404	ModelArts.3935	The app-auth API {id} does not exist.	The API {ID} that supports application authentication does not exist.	Ensure that the interface ID is correct.
404	ModelArts.4204	API %s does not exist.	The API does not exist.	Use an available API.

Status Code	Error Codes	Error Message	Description	Solution
404	ModelArts.4901	The app-auth API does not exist.	The app authentication API does not exist.	Ensure the app URL is correct.
404	ModelArts.5058	Object ({0}) does not exist.	The object does not exist.	Select another object.
404	ModelArts.6623	Ensure that the dataset already exists.	Failed to find the corresponding dataset.	Ensure that the dataset already exists.
404	ModelArts.6624	Ensure that the storage path already exists.	Failed to find the corresponding storage path.	Ensure that the storage path already exists.
404	ModelArts.6650	Ensure that the project already exists.	Failed to find the corresponding project.	Ensure that the project already exists.
405	ModelArts.2803	MethodNotAllowed	Method not allowed.	Please confirm that the HTTP Method is correct
408	ModelArts.4205	Connection timed out.	Accessing the backend server timed out.	Try again later.
408	ModelArts.6100	The request timed out. Please try again.	Timeout.	System error. Contact technical support.
409	ModelArts.2796	NotAllowedToTerminate	The job cannot be terminated.	Check whether the job status is valid.
409	ModelArts.2813	NotAllowedToRestart	The job cannot be restarted.	Check whether the action type is valid.
409	ModelArts.2878	JobStatusChanged	Job status changed	Please try again later.
409	ModelArts.3002	Model ({0}, {1}) already exists.	Model ({0}, {1}) already exists.	Change the model name or version and try again.

Status Code	Error Codes	Error Message	Description	Solution
409	ModelArts.3020	Infer format ({0}) already exists.	Input/Output mode {0} already exists.	Change the input/output mode.
409	ModelArts.3022	Template ({0}) already exists.	Template {0} already exists.	Select another template.
409	ModelArts.3073	model ({0}) already exists, no subscription required.	Model {0} already exists.	Do not subscribe to another model with the same name.
409	ModelArts.3503	Service {name} already exists.	The service {name} already exists.	Change the service name and try again.
409	ModelArts.3929	Failed to create the application because {reason}.	Failed to create the application. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
409	ModelArts.5015	The product is being reviewed	The product is being reviewed.	Perform operations after the review is complete.
409	ModelArts.5044	Operations conflict, please try again later	Failed to perform the operation.	Try again later.
413	ModelArts.4104	Invalid request body because the size exceeds the maximum size allowed.	The size of the request body is invalid.	Use a request body smaller than 12 MB.
417	ModelArts.6654	Project with the same name already exists.	A project with the same name already exists.	Use another project name.
429	ModelArts.2799	TooManyRequests	services too many requests	Please try again later

Status Code	Error Codes	Error Message	Description	Solution
429	ModelArts.4206	Excessive number of requests to %s.	The maximum number of requests has been reached.	Try again later.
429	ModelArts.4395	Too many dataset requests	Frequent dataset or labeling task creation in a unit time.	Try again later.
429	ModelArts.6101	The system is busy now. Please try again later.	The system is busy.	The system is busy. Please try again. If the retry still fails, contact technical support.
500	ModelArts.0010	Internal error.	Internal error.	Contact R&D and O&M personnel.
500	ModelArts.0109	Unauthorized account.	Unauthorized account.	Only the administrator can call alarm APIs.
500	ModelArts.2950	Unknown	Unknown error.	System error. Contact technical support.
500	ModelArts.2951	DatasetService	Dataset service error.	System error. Contact technical support.
500	ModelArts.2952	ExtServiceDB	Database service error.	System error. Contact technical support.
500	ModelArts.2953	ExtServiceIAM	IAM service error.	System error. Contact technical support.
500	ModelArts.2954	ExtServiceWorkspace	Workspace service error.	System error. Contact technical support.
500	ModelArts.2955	ExtServiceAOM	AOM service abnormal	System error. Contact technical support.
500	ModelArts.2956	ExtServiceAIG	AIG service abnormal	System error. Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
500	ModelArts.2957	ExtServiceSMN	SMN service abnormal	System error. Contact technical support.
500	ModelArts.2958	ExtServiceOBS	OBS service abnormal	System error. Contact technical support.
500	ModelArts.2959	ExtServiceMAOS	MAOS service abnormal	System error. Contact technical support.
500	ModelArts.3006	Failed to publish model.	Failed to publish the model.	The model metadata failed to be stored to the database. Contact R&D and O&M personnel.
500	ModelArts.3009	Failed to delete model, model ({0}) already deploy service.	Failed to delete model {0} because it has been deployed as a service.	Delete the deployed service and try again.
500	ModelArts.3043	User ({0}) does not have obs: object: PutObjectAcl permission.	User {0} does not have the obs:object:PutObjectAcl permission.	Add the permission and try again.
500	ModelArts.3044	Model file ({0}) is larger than 20G and cannot be imported.	Failed to import model file {0}.	Ensure that the file is at most 20 GB in size.
500	ModelArts.3045	Parameter ({0}) is null.	Parameter {0} is left blank.	Check the parameter setting as prompted.
500	ModelArts.3047	ExeML model({0}) cannot be converted.	Failed to convert model {0}.	ExeML models cannot be converted.

Status Code	Error Codes	Error Message	Description	Solution
500	ModelArts.3048	Model({0}) is being imported and cannot be converted.	Failed to convert model {0} because the model status is abnormal.	Convert the model after the model status changes to normal.
500	ModelArts.3049	Cannot convert models belonging to other users.	Models of other users cannot be converted.	You can only convert your models.
500	ModelArts.3050	Get user temporary credential failed.	Failed to obtain the temporary user certificate.	Check whether the token is valid.
500	ModelArts.3052	Chip Type ({0}) not support.	Chip type {0} is not supported.	Check whether the chip is of Ascend, GPU, Arm, or general type.
500	ModelArts.3053	Model Type ({0}) not support.	Model type {0} is not supported.	This type of model is not supported.
500	ModelArts.3054	Task ({0}) does not exist.	Task {0} does not exist.	The task is unavailable.
500	ModelArts.3055	Task ({0}) is running cannot be deleted.	Failed to delete task {0} because it is running.	Delete the task after it is complete.
500	ModelArts.3056	Task name ({0}) not meeting the specification.	Task name {0} does not comply with specifications.	Ensure that a task name starts with a lowercase letter, ends with a lowercase letter or digit, and contains 2 to 24 characters, including lowercase letters, digits, and hyphens (-).

Status Code	Error Codes	Error Message	Description	Solution
500	ModelArts.3057	Task description ({0}) not meeting the specification.	Task description {0} does not comply with specifications.	Ensure that task description contains 1 to 100 characters and cannot contain the following characters: &,"'<>=.
500	ModelArts.3058	Task input ({0}) not meeting the specification.	Task input {0} does not comply with specifications.	Perform operations according to the error message.
500	ModelArts.3059	Task output ({0}) not meeting the specification.	Task output {0} does not comply with specifications.	Ensure that the task output is a valid HTTP or HTTPS address.
500	ModelArts.3060	Task spec ({0}) not meeting the specification.	Advanced task option {0} does not comply with specifications.	Ensure that the advanced option does not contain Chinese characters or the following characters: ()&\$? <>. Ensure that the value is less than 4000.
500	ModelArts.3061	get Task ({0}) log parameter not meeting the specification.	Log parameters of task {0} do not comply with specifications.	Ensure that the offset or lines value is greater than or equal to 0.
500	ModelArts.3062	Task ({0}) exists.	Task {0} already exists.	Change the name and try again.
500	ModelArts.3064	DL Framework Type ({0}) not support.	Deep learning framework {0} is not supported.	This type of framework is not supported.
500	ModelArts.3065	The image of the model is being built so the runtime cannot be updated.	Failed to update runtime because the model image is being created.	Wait until the image is created.

Status Code	Error Codes	Error Message	Description	Solution
500	ModelArts.3301	Failed to build image.	Failed to create the image.	Check the image, or contact R&D and O&M personnel to rectify the fault.
500	ModelArts.3501	Failed to deploy the service.	Failed to deploy the service.	Contact service O&M personnel.
500	ModelArts.3504	Failed to delete the service.	Failed to delete the service.	Contact service O&M personnel.
500	ModelArts.3505	Failed to update the service.	Failed to query the service.	Contact service O&M personnel.
500	ModelArts.3506	Model {id} does not exist.	Failed to update the service.	Contact service O&M personnel.
500	ModelArts.3508	Failed to query the service monitoring information.	Failed to obtain the service monitoring information.	Contact service O&M personnel.
500	ModelArts.3509	Failed to query edge nodes.	Failed to query the node.	Contact service O&M personnel.
500	ModelArts.3511	Failed to query edge tags.	Failed to query the edge label.	Contact service O&M personnel.
500	ModelArts.3537	Failed to handle the CBC request.	Failed to process the CBC request.	Contact service O&M personnel.
500	ModelArts.3539	Failed to initialize service URL {url}.	Failed to initialize the service URL {URL}.	Ensure that the service URL is correct.
500	ModelArts.3543	Invalid CBC request.	The CBC request is invalid.	Try again or contact service O&M personnel.
500	ModelArts.3546	Failed to create the cluster.	Failed to create the dedicated resource pool.	Contact service O&M personnel.

Status Code	Error Codes	Error Message	Description	Solution
500	ModelArts.3579	Failed to query the model information.	Failed to query the model information.	Contact service O&M personnel.
500	ModelArts.3581	Failed to create edge certificates.	Failed to create the edge certificate.	Contact service O&M personnel.
500	ModelArts.3801	invalid token, can not get template ak/sk.	Failed to obtain the template AK/SK due to an invalid token.	Obtain a new token and try again.
500	ModelArts.3802	Failed to create API group {name} because {reason}.	Failed to create the API group {name}. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3803	Failed to register API {name} because {reason}.	Failed to register the API {name}. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3804	upload file to obs failed.	Failed to upload the file to OBS.	Contact R&D and O&M personnel.
500	ModelArts.3805	Failed to create AI service {name} because {reason}.	Failed to create the AI service {name}. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3806	Failed to update AI service {name} because {reason}.	Failed to update the AI service {name}. Fault cause: {fault cause}.	Locate the fault based on the failure cause.

Status Code	Error Codes	Error Message	Description	Solution
500	ModelArts.3807	Failed to delete AI service {name} because {reason}.	Failed to delete the AI service {name}. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3808	Failed to create AI subservice {name} because {reason}.	Failed to create the sub-service {name}. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3809	Failed to update AI subservice {name} because {reason}.	Failed to update the sub-service {name}. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3810	Failed to create the agency because {reason}.	Failed to create the agency. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3819	Failed to delete the agency definition.	Failed to delete the service agency definition.	Contact service O&M personnel.
500	ModelArts.3858	Failed to bind task type to API {id} because {reason}.	Failed to bind task type to API {ID}. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3859	Failed to unbind task type from API {id} because {reason}.	Failed to unbind the task type from API {ID}. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3860	Failed to create the task type because {reason}.	Failed to create the task type. Fault cause: {fault cause}.	Locate the fault based on the failure cause.

Status Code	Error Codes	Error Message	Description	Solution
500	ModelArts.3861	Failed to update the task type because {reason}.	Failed to update the task. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3891	Failed to operate the serverless cluster because {reason}.	Failed to operate the serverless cluster. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3893	Failed to forward the CBC request to the cloud service.	Failed to forward the CBC request to the cloud service.	Contact service O&M personnel.
500	ModelArts.3901	license id ({0}) is not exist.	License ID {0} does not exist.	Check whether the license ID is valid.
500	ModelArts.3902	Failed to get license info because ({0}).	Failed to obtain the license because {Reason}.	Locate the fault based on the failure cause.
500	ModelArts.3903	Renew license failed because ({0}).	Failed to renew the license because {Reason}.	Locate the fault based on the failure cause.
500	ModelArts.3904	Upload data failed because ({0}).	Failed to report the used quota because {Reason}.	Locate the fault based on the failure cause.
500	ModelArts.3905	Failed to get app key.	Failed to obtain the app key.	Contact R&D and O&M personnel.
500	ModelArts.3906	Failed to create license because ({0}).	Failed to create the license because {Reason}.	Locate the fault based on the failure cause.

Status Code	Error Codes	Error Message	Description	Solution
500	ModelArts.3907	Failed to delete license because ({0}).	Failed to delete the license because {Reason}.	Locate the fault based on the failure cause.
500	ModelArts.3908	Failed to get CBC resources.	Failed to obtain CBC resources.	Check the license ID or the associated license configuration.
500	ModelArts.3909	access CBC failed.	Failed to access CBC.	Contact R&D and O&M personnel.
500	ModelArts.3910	Check CBC auth failed because ({0}).	Failed to authorize CBC operations because {Reason}.	Locate the fault based on the failure cause. Renewal authentication fails because cloudservicetype is not provided. Unsubscription authentication fails because an instance is being deployed.
500	ModelArts.3921	Failed to create the app-auth API because {reason}.	Failed to register the API that supports application authentication. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3924	Failed to create the application code for application {id} because {reason}.	Failed to create the AppCode of the application {ID}. Fault cause: {fault cause}.	Locate the fault based on the failure cause.

Status Code	Error Codes	Error Message	Description	Solution
500	ModelArts.3925	Failed to delete app-auth api {id} because {reason}.	Failed to delete API {ID} that supports application authentication. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3926	Failed to reset the secret of application {id} because {reason}.	Failed to reset the private key of the application {ID}. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3927	Failed to reset the application code of application {id} because {reason}.	Failed to reset the AppCode of the application {ID}. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3928	Failed to obtain the app-auth API information because {reason}.	Failed to obtain information about the API that supports application authentication. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3932	Failed to obtain the application information because {reason}.	Failed to obtain the application information. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3933	Failed to delete application {id} because {reason}.	Failed to delete the application {ID}. Fault cause: {fault cause}.	Locate the fault based on the failure cause.

Status Code	Error Codes	Error Message	Description	Solution
500	ModelArts.3934	Failed to delete the application code of application {id} because {reason}.	Failed to delete the AppCode of the application {ID}. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3937	Failed to authorize the app-auth API to the application because {reason}.	Failed to authorize the API to the application. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.3938	Failed to unbind the app-auth API from the application because {reason}.	Failed to cancel the authorization from the API to the application. Fault cause: {fault cause}.	Locate the fault based on the failure cause.
500	ModelArts.4105	Failed to obtain the temporary AK/SK.	An exception occurred when obtaining the temporary AK/SK.	Internal error. Contact technical support.
500	ModelArts.4106	Failed to obtain the OBS agency.	Obtaining the OBS agency failed.	Authorize the OBS agency.
500	ModelArts.4204	Request API error. %s	Multiple APIs matched.	Ensure no conflict occurs in API planning.
500	ModelArts.4301	Failed to obtain %s.	Obtaining the token of the cloud service administrator failed.	Internal error. Contact technical support.
500	ModelArts.4302	Gateway forwarding error because %s.	Accessing the service is rejected.	Ensure the service to be accessed is running properly.

Status Code	Error Codes	Error Message	Description	Solution
500	ModelArts.4354	Insufficient quota	The number of created datasets has reached the maximum allowed limit.	Delete unused datasets or apply for a higher quota.
500	ModelArts.4360	Sync data source error	Failed to synchronize the data source.	Check the synchronization task status and result.
500	ModelArts.4367	Update dataset state failed	Failed to delete the dataset.	Check the dataset status.
500	ModelArts.4373	No migratory job	Failed to create the dataset migration task.	Check whether the source dataset of the migration task is valid.
500	ModelArts.4424	Delete sample failed	Failed to delete the dataset sample.	Ensure that the sample to be deleted is correct and that there is unfinished import or synchronization task.
500	ModelArts.4503	Failed to obtain the backend service because %s.	The service does not exist.	Ensure the service to be accessed is available.
500	ModelArts.4505	Internal backend service error because reading timed out.	Internal server error.	Ensure the service to be accessed is running properly.
500	ModelArts.4614	Task failed	Failed to run the task.	Check the execution result of the processor task.
500	ModelArts.4801	Failed to obtain the consul %s.	Obtaining service instances for Consul failed.	Internal error. Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
500	ModelArts.5000	Please try again later or contact customer service to solve the problem	Internal error.	System error. Contact technical support.
500	ModelArts.5003	Internal Error: access IAM service failed	Failed to access IAM.	System error. Contact technical support.
500	ModelArts.5004	Internal Error: access moderation service failed.	Failed to access Text Moderation.	System error. Contact technical support.
500	ModelArts.5005	Internal Error: access ModelArts service failed	Failed to access ModelArts.	System error. Contact technical support.
500	ModelArts.5006	Internal Error: access AI service failed	Failed to access the managed services in AI Gallery.	System error. Contact technical support.
500	ModelArts.5007	Internal Error: access AI manager failed	Failed to access the manager services in AI Gallery.	System error. Contact technical support.
500	ModelArts.5008	Internal Error: access SMN service failed	Failed to access SMN.	System error. Contact technical support.
500	ModelArts.5009	Database operation failed	Database operation error.	System error. Contact technical support.
500	ModelArts.5010	OBS operation failed	Failed to access OBS.	System error. Contact technical support.
500	ModelArts.5019	Internal Error: access CBC service failed	Failed to access CBC.	System error. Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
500	ModelArts.5021	Internal Error: access LCS service failed	Failed to access LCS.	System error. Contact technical support.
500	ModelArts.5039	Dear User,the traffic is a little busy. Please try again later	Excessive requests.	Try again later.
500	ModelArts.5050	Internal Error: access Hilens service failed	Failed to access HiLens.	System error. Contact technical support.
500	ModelArts.5100	The import path illegal.	The import path illegal.	Please select another object.
500	ModelArts.5101	The item version already exists.	The item version already exists.	Select another version.
500	ModelArts.5300	Failed to explore the user source address.	Failed to traverse user source addresses.	System error. Contact technical support.
500	ModelArts.5301	Failed to download the source file from OBS.	Failed to download the source file from OBS.	System error. Contact technical support.
500	ModelArts.5302	Failed to upload the source file to the destination address.	Failed to upload the source file to the destination address.	System error. Contact technical support.
500	ModelArts.5308	Internal Error: access VAS service failed	Failed to access VAS.	System error. Contact technical support.
500	ModelArts.5311	Failed to get market category id.	No market category ID found.	System error. Contact technical support.
500	ModelArts.5401	Fail to Crypt.	Fail to Crypt.	Please re-encrypt or decrypt.

Status Code	Error Codes	Error Message	Description	Solution
500	ModelArts.6102	The server has encountered an error and fails to process the request. Please try again later or submit a service ticket.	Internal error.	System error. Contact technical support.
500	ModelArts.6200	No resources available. Please try again later or submit a service ticket.	Internal error.	System error. Contact technical support.
500	ModelArts.6691	System error. Check the service status.	The algorithm service is abnormal.	System error. Check the service state.
500	ModelArts.6692	System error. Check the service status.	The dataset service is abnormal.	System error. Check the service state.
500	ModelArts.6699	Internal error.	Network error.	Check network connectivity.
500	ModelArts.7001	Workspace internal error.	An unknown error occurs in the workspace.	System error. Contact technical support.
500	ModelArts.7008	workspace in read-only status, please wait a few minutes	The workspace is abnormal. Only the read-only operation is supported.	System error. Contact technical support.
500	ModelArts.7009	call {apiType} api failed	The workspace is abnormal.	System error. Contact technical support.
500	ModelArts.7100	get enterprise project id failed	EPS request error.	System error. Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
500	ModelArts.7101	Call pdp auth api failed.	PDP request error.	System error. Contact technical support.
501	ModelArts.4383	Unsupported operation, dataset %s type is %s	The operation cannot be performed in the dataset.	Check whether the dataset supports the current operation.
501	ModelArts.4385	Auto deploy task exist	Failed to start the deploy task because an auto deploy task is being executed in the dataset.	Start a new deploy task after the current task is complete.
501	ModelArts.4386	Auto labeling task exist	Failed to start the auto labeling task because an auto labeling task is being executed in the dataset.	Start a new auto labeling task after the current task is complete.
501	ModelArts.4387	Pre-label task exist	Failed to start the pre-labeling task because a pre-labeling task is being executed in the dataset.	Start a new pre-labeling task after the current task is complete.
501	ModelArts.4394	Task is running	Failed to obtain the migration result because a migration task is being executed in the dataset.	Wait until the migration task is complete.
503	ModelArts.4302	Gateway forwarding error because %s.	The backend service is unavailable.	Internal error. Contact technical support.

Status Code	Error Codes	Error Message	Description	Solution
503	ModelArts.4700	Unavailable gateway.	The gateway is being stopped.	The platform is being upgraded. Try again later.
504	ModelArts.4503	Failed to obtain the backend service because %s.	The response from the backend service timed out.	Ensure the service to be accessed is running properly.

15.3 Obtaining a Project ID and Name

Scenarios

A project ID or name is required for some requests when an API is called. Therefore, obtain the project ID and name before calling the API. Use either of the following methods:

- [Obtaining a Project ID and Name from the Console](#)
- [Obtaining a Project ID by Calling an API](#)

Obtaining a Project ID and Name from the Console

To do so, perform the following operations:

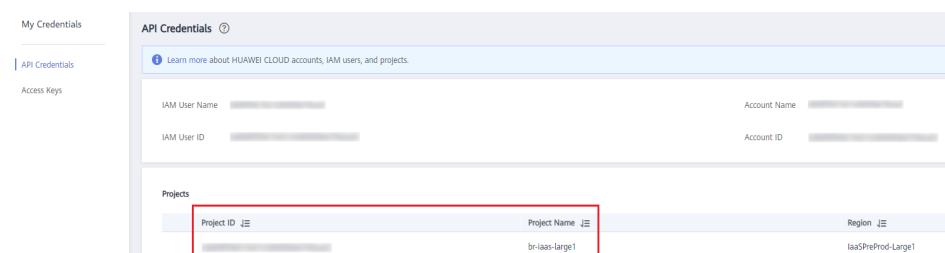
1. Sign up and log in to the ModelArts console.
2. In the upper right corner of the page, click the username and choose **My Credentials** from the drop-down list. The **My Credentials** page is displayed.

NOTE

If you have logged in to the official HUAWEI CLOUD website but not the console, click your username in the upper right corner and choose **My Account** from the drop-down list. On the **Basic Information** page, click **Manage** following **Security Credentials**. Then, the **My Credentials** page is displayed.

3. On the **API Credentials** page, view the project ID and name in the **Projects** area.

Figure 15-1 Viewing the project ID



If there are multiple projects, unfold the target region and obtain the project ID from the **Project ID** column.

Obtaining a Project ID by Calling an API

A project ID can be obtained by calling a specific API. For details, see [Querying Project Information Based on the Specified Criteria](#).

The API for obtaining a project ID is **GET https://{iam-endpoint}/v3/projects**. To obtain *{iam-endpoint}*, see [Request URI Regions and Endpoints](#).

The following is an example response. For example, if ModelArts is deployed in the **ap-southeast-1** region, the value of **name** in the response body is **ap-southeast-1**. The value of **id** in **projects** is the project ID.

```
{
  "projects": [{
    "domain_id": "65382450e8f64ac0870cd180d14e684b",
    "is_domain": false,
    "parent_id": "65382450e8f64ac0870cd180d14e684b",
    "name": "ap-southeast-1",
    "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"
  }
}
```

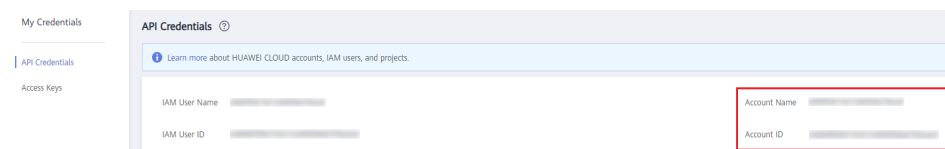
15.4 Obtaining an Account Name and ID

When you call APIs, certain requests require the account name and ID. To obtain an account name and ID, do as follows:

1. Sign up and log in to the console.
2. Hover the cursor on the username and choose **My Credentials** from the drop-down list.

On the **API Credentials** page, view the account name and ID.

Figure 15-2 Viewing the account name and ID



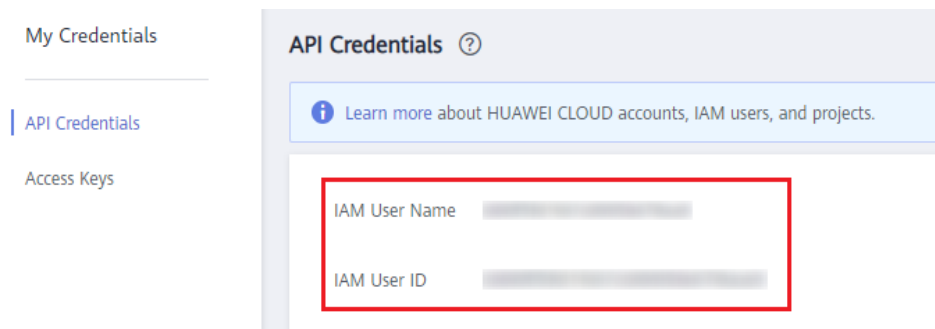
15.5 Obtaining a Username and ID

When you call APIs, certain requests require the username and ID. To obtain a username and ID, do as follows:

1. Log in to the management console after registration.
2. Hover the cursor on the username and choose **My Credentials** from the drop-down list.

On the **API Credentials** page, view the IAM username and ID.

Figure 15-3 Viewing the username and ID



16 Historical APIs

16.1 Data Management (Old Version)

16.1.1 Querying the Dataset List

Function

This API is used to query the created datasets that meet the search criteria by page.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets

Table 16-1 Path Parameters

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

Table 16-2 Query Parameters

Parameter	Mandatory	Type	Description
check_running_task	No	Boolean	Whether to detect tasks (including initialization tasks) that are running in a dataset. Options: <ul style="list-style-type: none"> • true: Detect tasks (including initialization tasks) that are running in the dataset. • false: Do not detect tasks (including initialization tasks) that are running in the dataset. (Default value)
contains_versions	No	Boolean	Whether the dataset contains a version.
dataset_type	No	Integer	Dataset type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 400: table dataset • 600: video labeling • 900: custom format
file_preview	No	Boolean	Whether a dataset supports preview when it is queried. Options: <ul style="list-style-type: none"> • true: Preview is supported and the list of four dataset files is returned. • false: Preview is not supported. (Default value)
limit	No	Integer	Maximum number of records returned on each page. The value ranges from 1 to 100. The default value is 10 .

Parameter	Mandatory	Type	Description
offset	No	Integer	Start page of the paging list. The default value is 0 .
order	No	String	Sorting sequence of the query. Options: <ul style="list-style-type: none"> • asc: ascending order • desc: descending order (default value)
running_task_type	No	Integer	Type of the running tasks (including initialization tasks) to be detected. The options are as follows: <ul style="list-style-type: none"> • 0: auto labeling • 1: pre-labeling • 2: export • 3: version switch • 4: manifest file export • 5: manifest file import • 6: version publishing • 7: auto grouping
search_content	No	String	Fuzzy search keyword. By default, this parameter is left blank.
sort_by	No	String	Sorting mode of the query. Options: <ul style="list-style-type: none"> • create_time: Sort by creation time. (Default value) • dataset_name: Sort by dataset name.
support_export	No	Boolean	Whether to filter datasets that can be exported only (including datasets of image classification, object detection, and custom format). If this parameter is left blank or the value is set to false , datasets are not filtered. Options: <ul style="list-style-type: none"> • true: Filter out only datasets that can be exported. • false: Do not filter out only datasets that can be exported. (Default value)

Parameter	Mandatory	Type	Description
train_evaluate_ratio	No	String	Version split ratio for dataset filtering. The numbers before and after the comma indicate the minimum and maximum split ratios, and the versions whose split ratios are within the range are filtered out, for example, 0.0,1.0 . Note: If this parameter is left blank or unavailable, the system does not filter datasets based on the version split ratio by default.
version_format	No	Integer	Dataset version format for dataset filtering. This parameter is used to filter datasets that meet the filter criteria. Options: <ul style="list-style-type: none"> • 0: default format • 1: CarbonData (supported only by table datasets) • 2: CSV
with_labels	No	Boolean	Whether to return dataset labels. Options: <ul style="list-style-type: none"> • true: Return label information. • false: Do not return label information. (Default value)
workspace_id	No	String	Workspace ID. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.
dataset_version	No	String	Dataset version, which is used to distinguish a dataset before and after it is decoupled from labeling tasks. Options: <ul style="list-style-type: none"> • v1: dataset before it is decoupled from labeling tasks (default value) • v2: dataset after it is decoupled from labeling tasks (default value) • all: all datasets

Request Parameters

None

Response Parameters

Status code: 200

Table 16-3 Response body parameters

Parameter	Type	Description
datasets	Array of DatasetAndFilePreview objects	Dataset list queried by page.
total_number	Integer	Total number of datasets. The value cannot exceed 100.

Table 16-4 DatasetAndFilePreview

Parameter	Type	Description
annotated_sample_count	Integer	Number of labeled samples in a dataset.
annotated_sub_sample_count	Integer	Number of labeled subsamples.
content_labeling	Boolean	Whether to enable content labeling for the speech paragraph labeling dataset. This function is enabled by default.
create_time	Long	Time when a dataset is created.
current_version_id	String	Current version ID of a dataset.
current_version_name	String	Current version name of a dataset. Version name. The value is a string of 1 to 32 characters consisting of letters, digits, underscores (_), and hyphens (-).
data_format	String	Data format.
data_sources	Array of DataSource objects	Data source list.
data_statistics	Map<String,Object>	Sample statistics on a dataset, including the statistics on sample metadata in JSON format.

Parameter	Type	Description
data_update_time	Long	Time when a sample and a label are updated.
data_url	String	Data path for training.
dataset_format	Integer	Dataset format. Options: <ul style="list-style-type: none"> ● 0: file ● 1: table
dataset_id	String	Dataset ID.
dataset_name	String	Dataset name.
dataset_tags	Array of strings	Key identifier list of a dataset, for example, ["Image","Object detection"].
dataset_type	Integer	Dataset type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 400: table dataset ● 600: video labeling ● 900: custom format
dataset_version_count	Integer	Version number of a dataset.
deleted_sample_count	Integer	Number of deleted samples.
deletion_stats	Map<String,Integer>	Deletion reason statistics.
description	String	Dataset description.
enterprise_project_id	String	Enterprise project ID.
exist_running_task	Boolean	Whether the dataset contains running (including initialization) tasks. Options: <ul style="list-style-type: none"> ● true: The dataset contains running tasks. ● false: The dataset does not contain running tasks.

Parameter	Type	Description
exist_workforce_task	Boolean	Whether the dataset contains team labeling tasks. Options: <ul style="list-style-type: none"> ● true: The dataset contains team labeling tasks. ● false: The dataset does not contain team labeling tasks.
feature_supports	Array of strings	List of features supported by the dataset. Currently, only the value 0 is supported, indicating that the OBS file size is limited.
import_data	Boolean	Whether to import data. Options: <ul style="list-style-type: none"> ● true: Import data. ● false: Do not import data.
import_task_id	String	ID of an import task.
inner_annotation_path	String	Path for storing the labeling result of a dataset.
inner_data_path	String	Path for storing the internal data of a dataset.
inner_log_path	String	Path for storing internal logs of a dataset.
inner_task_path	String	Path for internal task of a dataset.
inner_temp_path	String	Path for storing internal temporary files of a dataset.
inner_work_path	String	Output directory of a dataset.
label_task_count	Integer	Number of labeling tasks.
labels	Array of Label objects	Dataset label list.
loading_sample_count	Integer	Number of loading samples.
managed	Boolean	Whether a dataset is hosted. Options: <ul style="list-style-type: none"> ● true: The dataset is hosted. ● false: The dataset is not hosted.
next_version_num	Integer	Number of next versions of a dataset.

Parameter	Type	Description
running_tasks_id	Array of strings	ID list of running (including initialization) tasks.
samples	Array of AnnotationFile objects	Sample list.
schema	Array of Field objects	Schema list.
status	Integer	Dataset status. Options: <ul style="list-style-type: none"> ● 0: creating dataset ● 1: normal dataset ● 2: deleting dataset ● 3: deleted dataset ● 4: abnormal dataset ● 5: synchronizing dataset ● 6: releasing dataset ● 7: dataset in version switching ● 8: importing dataset
third_path	String	Third-party path.
total_sample_count	Integer	Total number of dataset samples.
total_sub_sample_count	Integer	Total number of subsamples generated from the parent samples. For example, the total number of key frame images extracted from the video labeling dataset is that of subsamples.
unconfirmed_sample_count	Integer	Number of auto labeling samples to be confirmed.
update_time	Long	Time when a dataset is updated.
versions	Array of DatasetVersion objects	Dataset version information. Currently, only the current version information of a dataset is recorded.
work_path	String	Output dataset path, which is used to store output files such as label files. The path is an OBS path in the format of <i>/Bucket name/File path</i> . For example: /obs-bucket .
work_path_type	Integer	Type of the dataset output path. The default value is 0, indicating an OBS bucket.

Parameter	Type	Description
workforce_descriptor	WorkforceDescriptor object	Team labeling information.
workforce_task_count	Integer	Number of team labeling tasks of a dataset.
workspace_id	String	Workspace ID. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.

Table 16-5 DataSource

Parameter	Type	Description
data_path	String	Data source path.
data_type	Integer	Data type. Options: <ul style="list-style-type: none"> ● 0: OBS bucket (default value) ● 1: GaussDB(DWS) ● 2: DLI ● 3: RDS ● 4: MRS ● 5: AI Gallery ● 6: Inference service
schema_maps	Array of SchemaMap objects	Schema mapping information corresponding to the table data.
source_info	SourceInfo object	Information required for importing a table data source.
with_column_header	Boolean	Whether the first row in the file is a column name. This field is valid for the table dataset. Options: <ul style="list-style-type: none"> ● true: The first row in the file is the column name. ● false: The first row in the file is not the column name.

Table 16-6 SchemaMap

Parameter	Type	Description
dest_name	String	Name of the destination column.

Parameter	Type	Description
src_name	String	Name of the source column.

Table 16-7 SourceInfo

Parameter	Type	Description
cluster_id	String	MRS cluster ID. You can log in to the MRS console to view the information.
cluster_mode	String	Running mode of an MRS cluster. Options: <ul style="list-style-type: none"> • 0: normal cluster • 1: security cluster
cluster_name	String	MRS cluster name You can log in to the MRS console to view the information.
database_name	String	Name of the database to which the table dataset is imported.
input	String	HDFS path of the table data set. For example, / datasets/demo.
ip	String	IP address of your GaussDB(DWS) cluster.
port	String	Port number of your GaussDB(DWS) cluster.
queue_name	String	DLI queue name of a table dataset.
subnet_id	String	Subnet ID of an MRS cluster.
table_name	String	Name of the table to which a table dataset is imported.
user_name	String	Username, which is mandatory for GaussDB(DWS) data.
user_password	String	User password, which is mandatory for GaussDB(DWS) data.
vpc_id	String	ID of the VPC where an MRS cluster resides.

Table 16-8 Label

Parameter	Type	Description
attributes	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
name	String	Label name.

Parameter	Type	Description
property	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-9 AnnotationFile

Parameter	Type	Description
create_time	Long	Time when a sample is created.
dataset_id	String	Dataset ID.
depth	Integer	Number of image sample channels.
file_Name	String	Sample name.
file_id	String	Sample ID.
file_type	String	File type.
height	Integer	Image sample height.
size	Long	Image sample size.
tags	Map<String,String>	Label information of a sample.
url	String	OBS address of the preview sample.
width	Integer	Image sample width.

Table 16-10 Field

Parameter	Type	Description
description	String	Schema description.
name	String	Schema name.
schema_id	Integer	Schema ID.
type	String	Schema value type.

Table 16-11 DatasetVersion

Parameter	Type	Description
add_sample_count	Integer	Number of added samples.
analysis_cache_path	String	Cache path for feature analysis.
analysis_statuses	Integer	Status of a feature analysis task. Options: <ul style="list-style-type: none"> ● 0: initialized ● 1: running ● 2: completed ● 3: failed
analysis_task_id	String	ID of a feature analysis task.
annotated_sample_count	Integer	Number of samples with labeled versions.
annotated_sub_sample_count	Integer	Number of labeled subsamples.
clear_hard_property	Boolean	Whether to clear hard example properties during release. Options: <ul style="list-style-type: none"> ● true: Clear hard example properties. (Default value) ● false: Do not clear hard example properties.
code	String	Status code of a preprocessing task such as rotation and cropping.
create_time	Long	Time when a version is created.

Parameter	Type	Description
crop	Boolean	Whether to crop the image. This field is valid only for the object detection dataset whose labeling box is in the rectangle shape. Options: <ul style="list-style-type: none"> • true: Crop the image. • false: Do not crop the image. (Default value)
crop_path	String	Path for storing cropped files.
crop_rotate_cache_path	String	Temporary directory for executing the rotation and cropping task.
data_analysis	Map<String,Object>	Feature analysis result in JSON format.
data_path	String	Path for storing data.
data_statistics	Map<String,Object>	Sample statistics on a dataset, including the statistics on sample metadata in JSON format.
data_validate	Boolean	Whether data is validated by the validation algorithm before release. Options: <ul style="list-style-type: none"> • true: The data has been validated. • false: The data has not been validated.
deleted_sample_count	Integer	Number of deleted samples.
deletion_stats	Map<String,Integer>	Deletion reason statistics.
description	String	Description of a version.
export_images	Boolean	Whether to export images to the version output directory during release. Options: <ul style="list-style-type: none"> • true: Export images to the version output directory. • false: Do not export images to the version output directory. (Default value)
extract_serial_number	Boolean	Whether to parse the subsample number during release. The field is valid for the healthcare dataset. Options: <ul style="list-style-type: none"> • true: Parse the subsample number. • false: Do not parse the subsample number. (Default value)

Parameter	Type	Description
include_dataset_data	Boolean	Whether to include the source data of a dataset during release. Options: <ul style="list-style-type: none"> • true: The source data of a dataset is included. • false: The source data of a dataset is not included.
is_current	Boolean	Whether the current dataset version is used. Options: <ul style="list-style-type: none"> • true: The current dataset version is used. • false: The current dataset version is not used.
label_stats	Array of LabelStats objects	Label statistics list of a released version.
label_type	String	Label type of a released version. Options: <ul style="list-style-type: none"> • multi: Multi-label samples are included. • single: All samples are single-labeled.
manifest_cache_input_path	String	Input path for the manifest file cache during version release.
manifest_path	String	Path for storing the manifest file with the released version.
message	String	Task information recorded during release (for example, error information).
modified_sample_count	Integer	Number of modified samples.
previous_annotated_sample_count	Integer	Number of labeled samples of parent versions.
previous_total_sample_count	Integer	Total samples of parent versions.
previous_version_id	String	Parent version ID
processor_task_id	String	ID of a preprocessing task such as rotation and cropping.

Parameter	Type	Description
processor_task_status	Integer	Status of a preprocessing task such as rotation and cropping. The options are as follows: <ul style="list-style-type: none"> ● 0: initialized - 1: running ● 2: completed ● 3: failed ● 4: stopped ● 5: timeout ● 6: Deletion failed. ● 7: Failed to stop.
remove_sample_usage	Boolean	Whether to clear the existing usage information of a dataset during release. Options: <ul style="list-style-type: none"> ● true: Clear the existing usage information of a dataset. (Default value) ● false: Do not clear the existing usage information of a dataset.
rotate	Boolean	Whether to rotate the image. Options: <ul style="list-style-type: none"> ● true: Rotate the image. ● false: Do not rotate the image. (Default value)
rotate_path	String	Path for storing the rotated file.
sample_state	String	Sample status. The options are as follows: <ul style="list-style-type: none"> ● __ALL__: labeled ● __NONE__: not marked ● __UNCHECK__: to be accepted ● __ACCEPTED__: The acceptance is passed. ● __REJECTED__: rejected ● __UNREVIEWED__: to be reviewed ● __REVIEWED__: approved ● __WORKFORCE_SAMPLED__: sampled ● __WORKFORCE_SAMPLED_UNCHECK__: Sampling is to be accepted. ● __WORKFORCE_SAMPLED_CHECKED__: Sampling has been accepted. ● __WORKFORCE_SAMPLED_ACCEPTED__: The sampling is passed. ● __WORKFORCE_SAMPLED_REJECTED__: The sampling has been rejected. ● __AUTO_ANNOTATION__: to be confirmed

Parameter	Type	Description
start_processor_task	Boolean	Whether to start a data analysis task during release. Options: <ul style="list-style-type: none"> ● true: Start a data analysis task during release. ● false: Do not start a data analysis task during release. (Default value)
status	Integer	Status of a dataset version. Options: <ul style="list-style-type: none"> ● 0: creating ● 1: running ● 2: deleting ● 3: deleted ● 4: error
tags	Array of strings	Key identifier list of the dataset. The labeling type is used as the default label when the labeling task releases a version. For example, ["Image", "Object detection"].
task_type	Integer	Labeling task type of the released version, which is the same as the dataset type.
total_sample_count	Integer	Total number of version samples.
total_sub_sample_count	Integer	Total number of subsamples generated from the parent samples.
train_evaluate_sample_ratio	String	Split training and verification ratio during version release. The default value is 1.00 , indicating that all released versions are training sets.
update_time	Long	Time when a version is updated.
version_format	String	Format of a dataset version. Options: <ul style="list-style-type: none"> ● Default: default format ● CarbonData: CarbonData (supported only by table datasets) ● CSV: CSV
version_id	String	Dataset version ID.
version_name	String	Dataset version name.

Parameter	Type	Description
with_column_header	Boolean	Whether the first row in the released CSV file is a column name. This field is valid for the table dataset. Options: <ul style="list-style-type: none"> ● true: The first row in the released CSV file is a column name. ● false: The first row in the released CSV file is not a column name.

Table 16-12 LabelStats

Parameter	Type	Description
attributes	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
count	Integer	Number of labels.
name	String	Label name.
property	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.
sample_count	Integer	Number of samples containing the label.
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-13 LabelAttribute

Parameter	Type	Description
default_value	String	Default value of a label attribute.

Parameter	Type	Description
id	String	Label attribute ID. You can query the tag by invoking the tag list.
name	String	Label attribute name. The value contains a maximum of 64 characters and cannot contain the character. <>=&".
type	String	Label attribute type. Options: <ul style="list-style-type: none"> ● text: text ● select: single-choice drop-down list
values	Array of LabelAttributeValue objects	List of label attribute values.

Table 16-14 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

Table 16-15 LabelProperty

Parameter	Type	Description
@modelarts:color	String	Default attribute: Label color, which is a hexadecimal code of the color. By default, this parameter is left blank. Example: #FFFFFF0 .
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> ● bndbox: rectangle ● polygon: polygon ● circle: circle ● line: straight line ● dashed: dotted line ● point: point ● polyline: polyline

Parameter	Type	Description
@modelarts:from_type	String	Default attribute: Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.
@modelarts:rename_to	String	Default attribute: The new name of the label.
@modelarts:shortcut	String	Default attribute: Label shortcut key. By default, this parameter is left blank. For example: D .
@modelarts:to_type	String	Default attribute: Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Table 16-16 WorkforceDescriptor

Parameter	Type	Description
current_task_id	String	ID of a team labeling task.
current_task_name	String	Name of a team labeling task.
reject_num	Integer	Number of rejected samples.
repetition	Integer	Number of persons who label each sample. The minimum value is 1 .
is_synchronize_auto_labeling_data	Boolean	Whether to synchronously update auto labeling data. Options: <ul style="list-style-type: none"> • true: Update auto labeling data synchronously. • false: Do not update auto labeling data synchronously.
is_synchronize_data	Boolean	Whether to synchronize updated data, such as uploading files, synchronizing data sources, and assigning imported unlabeled files to team members. Options: <ul style="list-style-type: none"> • true: Synchronize updated data to team members. • false: Do not synchronize updated data to team members.

Parameter	Type	Description
workers	Array of Worker objects	List of labeling team members.
workforce_id	String	ID of a labeling team.
workforce_name	String	Name of a labeling team.

Table 16-17 Worker

Parameter	Type	Description
create_time	Long	Creation time.
description	String	Labeling team member description. The value contains 0 to 256 characters and does not support the following special characters: ^! <>=&"
email	String	Email address of a labeling team member.
role	Integer	Role. Options: <ul style="list-style-type: none"> ● 0: labeling personnel ● 1: reviewer ● 2: team administrator ● 3: dataset owner
status	Integer	Current login status of a labeling team member. Options: <ul style="list-style-type: none"> ● 0: The invitation email has not been sent. ● 1: The invitation email has been sent but the user has not logged in. ● 2: The user has logged in. ● 3: The labeling team member has been deleted.
update_time	Long	Update time.
worker_id	String	ID of a labeling team member.
workforce_id	String	ID of a labeling team.

Example Requests

Querying the Dataset List

```
GET https://{endpoint}/v2/{project_id}/datasets?
offset=0&limit=10&sort_by=create_time&order=desc&dataset_type=0&file_preview=true
```

Example Responses

Status code: 200

OK

```
{
  "total_number": 1,
  "datasets": [ {
    "dataset_id": "gfgHHSokody6AJigS5A",
    "dataset_name": "dataset-f9e8",
    "dataset_type": 0,
    "data_format": "Default",
    "next_version_num": 4,
    "status": 1,
    "data_sources": [ {
      "data_type": 0,
      "data_path": "/test-obs/classify/input/animals/"
    } ],
    "create_time": 1605690595404,
    "update_time": 1605690595404,
    "description": "",
    "current_version_id": "54lXbeJhfttGpL46lbv",
    "current_version_name": "V003",
    "total_sample_count": 10,
    "annotated_sample_count": 10,
    "work_path": "/test-obs/classify/output/",
    "inner_work_path": "/test-obs/classify/output/dataset-f9e8-gfgHHSokody6AJigS5A/",
    "inner_annotation_path": "/test-obs/classify/output/dataset-f9e8-gfgHHSokody6AJigS5A/annotation/",
    "inner_data_path": "/test-obs/classify/output/dataset-f9e8-gfgHHSokody6AJigS5A/data/",
    "inner_log_path": "/test-obs/classify/output/dataset-f9e8-gfgHHSokody6AJigS5A/logs/",
    "inner_temp_path": "/test-obs/classify/output/dataset-f9e8-gfgHHSokody6AJigS5A/temp/",
    "inner_task_path": "/test-obs/classify/output/dataset-f9e8-gfgHHSokody6AJigS5A/task/",
    "work_path_type": 0,
    "workspace_id": "0",
    "enterprise_project_id": "0",
    "exist_running_task": false,
    "exist_workforce_task": false,
    "running_tasks_id": [ ],
    "workforce_task_count": 0,
    "feature_supports": [ "0" ],
    "managed": false,
    "import_data": false,
    "label_task_count": 1,
    "dataset_format": 0,
    "content_labeling": true,
    "samples": [ {
      "url": "https://test-obs.obs.xxx.com:443/classify/input/animals/15.jpg?
AccessKeyId=vprCCTY1NmHudlvC0bXr&Expires=1606100112&Signature=tuUo9jl6lqoMKAwNBz5g8dxO
%2FdE%3D",
      "create_time": 1605690596035
    }, {
      "url": "https://test-obs.obs.xxx.com:443/classify/input/animals/8.jpg?
AccessKeyId=vprCCTY1NmHudlvC0bXr&Expires=1606100112&Signature=NITOdBnkUXtdnKuEgDzZpkQzNfM
%3D",
      "create_time": 1605690596046
    }, {
      "url": "https://test-obs.obs.xxx.com:443/classify/input/animals/9.jpg?
AccessKeyId=vprCCTY1NmHudlvC0bXr&Expires=1606100112&Signature=
%2BwUo1BL38%2F2d7p7anPi4fNzm1VU%3D",
      "create_time": 1605690596050
    }, {
      "url": "https://test-obs.obs.xxx.com:443/classify/input/animals/7.jpg?
AccessKeyId=vprCCTY1NmHudlvC0bXr&Expires=1606100112&Signature=tOrHfcWo
%2FEJ0wRzfi1M5Wk2MrXg%3D",
      "create_time": 1605690596043
    } ]
  } ]
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.2 Creating a Dataset

Function

This API is used to create a dataset.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets

Table 16-18 Path Parameters

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

Request Parameters

Table 16-19 Request body parameters

Parameter	Mandatory	Type	Description
data_format	No	String	Data format. Options: <ul style="list-style-type: none"> • Default: default format • CarbonData: CarbonData (supported only by table datasets)
data_sources	Yes	Array of DataSource objects	Input dataset path, which is used to synchronize source data (such as images, text files, and audio files) in the directory and its subdirectories to the dataset. For a table dataset, this parameter indicates the import directory. The work directory of a table dataset cannot be an OBS path in a KMS-encrypted bucket. Only one data source can be imported at a time.
dataset_name	Yes	String	Dataset name. The value contains 1 to 100 characters. Only letters, digits, underscores (_), and hyphens (-) are allowed, for example, dataset-9f3b.
dataset_type	No	Integer	Dataset type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 400: table dataset • 600: video labeling • 900: custom format

Parameter	Mandatory	Type	Description
description	No	String	Dataset description. The value is empty by default. The description contains 0 to 256 characters and does not support the following special characters: ^!<>=&''
import_annotations	No	Boolean	Indicates whether to automatically import the labeling information in the input directory. Object detection, image classification, and text classification are supported. The options are as follows: <ul style="list-style-type: none"> • true: Import the annotation information in the input directory (default value). • false: The annotation information in the input directory is not imported.
import_data	No	Boolean	Whether to import data. This parameter is used only for table datasets. Options: <ul style="list-style-type: none"> • true: Import data when creating a database. • false: Do not import data when creating a database. (Default value)
label_format	No	LabelFormat object	Label format information. This parameter is used only for text datasets.
labels	No	Array of Label objects	Dataset label list.
managed	No	Boolean	Whether to host a dataset. Options: <ul style="list-style-type: none"> • true: Host a dataset. • false: Do not host a dataset. (Default value)
schema	No	Array of Field objects	Schema list.

Parameter	Mandatory	Type	Description
work_path	Yes	String	<p>Output dataset path, which is used to store output files such as label files.</p> <ul style="list-style-type: none"> • The format is <i>/Bucket name/File path</i>, for example, /obs-bucket/flower/rose/. (The directory is used as the path.) • A bucket cannot be directly used as a path. • The output dataset path is different from the input dataset path or its subdirectory. • The value contains 3 to 700 characters.
work_path_type	Yes	Integer	Type of the dataset output path. The default value is 0, indicating an OBS bucket.
workforce_information	No	WorkforceInformation object	Team labeling information.
workspace_id	No	String	Workspace ID. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.

Table 16-20 DataSource

Parameter	Mandatory	Type	Description
data_path	No	String	Data source path.
data_type	No	Integer	<p>Data type. Options:</p> <ul style="list-style-type: none"> • 0: OBS bucket (default value) • 1: GaussDB(DWS) • 2: DLI • 3: RDS • 4: MRS • 5: AI Gallery • 6: Inference service

Parameter	Mandatory	Type	Description
schema_maps	No	Array of SchemaMap objects	Schema mapping information corresponding to the table data.
source_info	No	SourceInfo object	Information required for importing a table data source.
with_column_header	No	Boolean	Whether the first row in the file is a column name. This field is valid for the table dataset. Options: <ul style="list-style-type: none"> • true: The first row in the file is the column name. • false: The first row in the file is not the column name.

Table 16-21 SchemaMap

Parameter	Mandatory	Type	Description
dest_name	No	String	Name of the destination column.
src_name	No	String	Name of the source column.

Table 16-22 SourceInfo

Parameter	Mandatory	Type	Description
cluster_id	No	String	MRS cluster ID. You can log in to the MRS console to view the information.
cluster_mode	No	String	Running mode of an MRS cluster. Options: <ul style="list-style-type: none"> • 0: normal cluster • 1: security cluster
cluster_name	No	String	MRS cluster name You can log in to the MRS console to view the information.
database_name	No	String	Name of the database to which the table dataset is imported.

Parameter	Mandatory	Type	Description
input	No	String	HDFS path of the table data set. For example, /datasets/demo.
ip	No	String	IP address of your GaussDB(DWS) cluster.
port	No	String	Port number of your GaussDB(DWS) cluster.
queue_name	No	String	DLI queue name of a table dataset.
subnet_id	No	String	Subnet ID of an MRS cluster.
table_name	No	String	Name of the table to which a table dataset is imported.
user_name	No	String	Username, which is mandatory for GaussDB(DWS) data.
user_password	No	String	User password, which is mandatory for GaussDB(DWS) data.
vpc_id	No	String	ID of the VPC where an MRS cluster resides.

Table 16-23 LabelFormat

Parameter	Mandatory	Type	Description
label_type	No	String	Label type of text classification. Options: <ul style="list-style-type: none"> • 0: The label is separated from the text, and they are distinguished by the fixed suffix _result. For example, the text file is abc.txt, and the label file is abc_result.txt. • 1: Default value. Labels and texts are stored in the same file and separated by separators. You can use text_sample_separator to specify the separator between the text and label and text_label_separator to specify the separator between labels.
text_label_separator	No	String	Separator between labels. By default, a comma (,) is used as the separator. The separator needs to be escaped. The separator can contain only one character, such as a letter, a digit, or any of the following special characters: !@#\$%^&* _= ?/!';,;
text_sample_separator	No	String	Separator between the text and label. By default, the Tab key is used as the separator. The separator needs to be escaped. The separator can contain only one character, such as a letter, a digit, or any of the following special characters: !@#\$%^&* _= ?/!';,;

Table 16-24 Label

Parameter	Mandatory	Type	Description
attributes	No	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
name	No	String	Label name.
property	No	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.
type	No	Integer	Label type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet relationship • 103: text triplet entity • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 600: video labeling

Table 16-25 LabelAttribute

Parameter	Mandatory	Type	Description
default_value	No	String	Default value of a label attribute.
id	No	String	Label attribute ID. You can query the tag by invoking the tag list.
name	No	String	Label attribute name. The value contains a maximum of 64 characters and cannot contain the character. <>=&".

Parameter	Mandatory	Type	Description
type	No	String	Label attribute type. Options: <ul style="list-style-type: none"> • text: text • select: single-choice drop-down list
values	No	Array of LabelAttributeValue objects	List of label attribute values.

Table 16-26 LabelAttributeValue

Parameter	Mandatory	Type	Description
id	No	String	Label attribute value ID.
value	No	String	Label attribute value.

Table 16-27 LabelProperty

Parameter	Mandatory	Type	Description
@modelarts:color	No	String	Default attribute: Label color, which is a hexadecimal code of the color. By default, this parameter is left blank. Example: #FFFFFF0 .
@modelarts:default_shape	No	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dotted line • point: point • polyline: polyline

Parameter	Mandatory	Type	Description
@modelarts:from_type	No	String	Default attribute: Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.
@modelarts:rename_to	No	String	Default attribute: The new name of the label.
@modelarts:shortcut	No	String	Default attribute: Label shortcut key. By default, this parameter is left blank. For example: D .
@modelarts:to_type	No	String	Default attribute: Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Table 16-28 Field

Parameter	Mandatory	Type	Description
description	No	String	Schema description.
name	No	String	Schema name.
schema_id	No	Integer	Schema ID.
type	No	String	Schema value type.

Table 16-29 WorkforceInformation

Parameter	Mandatory	Type	Description
data_sync_type	No	Integer	Synchronization type. Options: <ul style="list-style-type: none"> • 0: not to be synchronized • 1: data to be synchronized • 2: label to be synchronized • 3: data and label to be synchronized

Parameter	Mandatory	Type	Description
repetition	No	Integer	Number of persons who label each sample. The minimum value is 1 .
synchronize_auto_labeling_data	No	Boolean	Whether to synchronously update auto labeling data. Options: <ul style="list-style-type: none"> • true: Update auto labeling data synchronously. • false: Do not update auto labeling data synchronously.
synchronize_data	No	Boolean	Whether to synchronize updated data, such as uploading files, synchronizing data sources, and assigning imported unlabeled files to team members. Options: <ul style="list-style-type: none"> • true: Synchronize updated data to team members. • false: Do not synchronize updated data to team members.
task_id	No	String	ID of a team labeling task.
task_name	Yes	String	Name of a team labeling task. The name contains 1 to 64 characters, including only letters, digits, underscores (_), and hyphens (-).
workforces_config	No	WorkforcesConfig object	Manpower assignment of a team labeling task. You can delegate the administrator to assign the manpower or do it by yourself.

Table 16-30 WorkforcesConfig

Parameter	Mandatory	Type	Description
agency	No	String	Administrator
workforces	No	Array of WorkforceConfig objects	List of teams that execute labeling tasks.

Table 16-31 WorkforceConfig

Parameter	Mandatory	Type	Description
workers	No	Array of Worker objects	List of labeling team members.
workforce_id	No	String	ID of a labeling team.
workforce_name	No	String	Name of a labeling team. The value contains 0 to 1024 characters and does not support the following special characters: !<>=&''

Table 16-32 Worker

Parameter	Mandatory	Type	Description
create_time	No	Long	Creation time.
description	No	String	Labeling team member description. The value contains 0 to 256 characters and does not support the following special characters: ^!<>=&''
email	No	String	Email address of a labeling team member.
role	No	Integer	Role. Options: <ul style="list-style-type: none"> • 0: labeling personnel • 1: reviewer • 2: team administrator • 3: dataset owner
status	No	Integer	Current login status of a labeling team member. Options: <ul style="list-style-type: none"> • 0: The invitation email has not been sent. • 1: The invitation email has been sent but the user has not logged in. • 2: The user has logged in. • 3: The labeling team member has been deleted.
update_time	No	Long	Update time.

Parameter	Mandatory	Type	Description
worker_id	No	String	ID of a labeling team member.
workforce_id	No	String	ID of a labeling team.

Response Parameters

Status code: 201

Table 16-33 Response body parameters

Parameter	Type	Description
dataset_id	String	Dataset ID.
error_code	String	Error code.
error_msg	String	Error message.
import_task_id	String	ID of an import task.

Example Requests

- Creating an Image Classification Dataset

```
{
  "workspace_id": "0",
  "dataset_name": "dataset-457f",
  "dataset_type": 0,
  "data_sources": [ {
    "data_type": 0,
    "data_path": "/test-obs/classify/input/animals/"
  } ],
  "description": "",
  "work_path": "/test-obs/classify/output/",
  "work_path_type": 0,
  "labels": [ {
    "name": "Rabbits",
    "type": 0,
    "property": {
      "@modelarts:color": "#3399ff"
    }
  }, {
    "name": "Bees",
    "type": 0,
    "property": {
      "@modelarts:color": "#3399ff"
    }
  } ]
}
```

- Creating an Object Detection Dataset

```
{
  "workspace_id": "0",
  "dataset_name": "dataset-95a6",
  "dataset_type": 1,
  "data_sources": [ {
```

```
"data_type" : 0,
"data_path" : "/test-obs/detect/input/animals/"
}],
"description" : "",
"work_path" : "/test-obs/detect/output/",
"work_path_type" : 0,
"labels" : [ {
  "name" : "Rabbits",
  "type" : 1,
  "property" : {
    "@modelarts:color" : "#3399ff"
  }
}, {
  "name" : "Bees",
  "type" : 1,
  "property" : {
    "@modelarts:color" : "#3399ff"
  }
}
]
```

- **Creating a Table Dataset**

```
{
  "workspace_id" : "0",
  "dataset_name" : "dataset-de83",
  "dataset_type" : 400,
  "data_sources" : [ {
    "data_type" : 0,
    "data_path" : "/test-obs/table/input/",
    "with_column_header" : true
  } ],
  "description" : "",
  "work_path" : "/test-obs/table/output/",
  "work_path_type" : 0,
  "schema" : [ {
    "schema_id" : 1,
    "name" : "150",
    "type" : "STRING"
  }, {
    "schema_id" : 2,
    "name" : "4",
    "type" : "STRING"
  }, {
    "schema_id" : 3,
    "name" : "setosa",
    "type" : "STRING"
  }, {
    "schema_id" : 4,
    "name" : "versicolor",
    "type" : "STRING"
  }, {
    "schema_id" : 5,
    "name" : "virginica",
    "type" : "STRING"
  } ],
  "import_data" : true
}
```

Example Responses

Status code: 201

Created

```
{
  "dataset_id" : "WxCREuCKBSAIQr9xrde"
}
```

Status Codes

Status Code	Description
201	Created
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.3 Querying Details About a Dataset

Function

This API is used to query details about a dataset.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}

Table 16-34 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Table 16-35 Query Parameters

Parameter	Mandatory	Type	Description
check_running_task	No	Boolean	Whether to detect tasks (including initialization tasks) that are running in a dataset. Options: <ul style="list-style-type: none"> • true: Detect tasks (including initialization tasks) that are running in the dataset. • false: Do not detect tasks that are running in the dataset. (Default value)
running_task_type	No	Integer	Type of the running tasks (including initialization tasks) to be detected. The options are as follows: <ul style="list-style-type: none"> • 0: auto labeling • 1: pre-labeling • 2: export • 3: version switch • 4: manifest file export • 5: manifest file import • 6: version publishing • 7: auto grouping

Request Parameters

None

Response Parameters

Status code: 200

Table 16-36 Response body parameters

Parameter	Type	Description
annotated_sample_count	Integer	Number of labeled samples in a dataset.
annotated_sub_sample_count	Integer	Number of labeled subsamples.

Parameter	Type	Description
content_labeling	Boolean	Whether to enable content labeling for the speech paragraph labeling dataset. This function is enabled by default.
create_time	Long	Time when a dataset is created.
current_version_id	String	Current version ID of a dataset.
current_version_name	String	Current version name of a dataset. Version name. The value is a string of 1 to 32 characters consisting of letters, digits, underscores (_), and hyphens (-).
data_format	String	Data format.
data_sources	Array of DataSource objects	Data source list.
data_statistics	Map<String, Object>	Sample statistics on a dataset, including the statistics on sample metadata.
data_update_time	Long	Time when a sample and a label are updated.
dataset_format	Integer	Dataset format. Options: <ul style="list-style-type: none"> ● 0: file ● 1: table
dataset_id	String	Dataset ID.
dataset_name	String	Dataset name.
dataset_tags	Array of strings	Key identifier list of a dataset, for example, ["Image", "Object detection"].
dataset_type	Integer	Dataset type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 400: table dataset ● 600: video labeling ● 900: custom format

Parameter	Type	Description
dataset_version_count	Integer	Number of dataset versions.
deleted_sample_count	Integer	Number of deleted samples.
deletion_stats	Map<String,Integer>	Deletion reason statistics.
description	String	Dataset description.
enterprise_project_id	String	Enterprise project ID.
exist_running_task	Boolean	Whether the dataset contains running (including initialization) tasks. Options: <ul style="list-style-type: none"> • true: The dataset contains running tasks. • false: The dataset does not contain running tasks.
exist_workforce_task	Boolean	Whether the dataset contains team labeling tasks. Options: <ul style="list-style-type: none"> • true: The dataset contains team labeling tasks. • false: The dataset does not contain team labeling tasks.
feature_supports	Array of strings	List of features supported by the dataset. Currently, only the value 0 is supported, indicating that the OBS file size is limited.
import_data	Boolean	Whether to import data. Options: <ul style="list-style-type: none"> • true: Import data. • false: Do not import data.
import_task_id	String	ID of an import task.
inner_annotation_path	String	Path for storing the labeling result of a dataset.
inner_data_path	String	Path for storing the internal data of a dataset.
inner_log_path	String	Path for storing internal logs of a dataset.
inner_task_path	String	Path for internal task of a dataset.
inner_temp_path	String	Path for storing internal temporary files of a dataset.

Parameter	Type	Description
inner_work_path	String	Output directory of a dataset.
label_task_count	Integer	Number of labeling tasks.
labels	Array of Label objects	Dataset label list.
loading_sample_count	Integer	Number of loading samples.
managed	Boolean	Whether a dataset is hosted. Options: <ul style="list-style-type: none"> ● true: The dataset is hosted. ● false: The dataset is not hosted.
next_version_num	Integer	Number of next versions of a dataset.
running_tasks_id	Array of strings	ID list of running (including initialization) tasks.
schema	Array of Field objects	Schema list.
status	Integer	Dataset status. Options: <ul style="list-style-type: none"> ● 0: creating dataset ● 1: normal dataset ● 2: deleting dataset ● 3: deleted dataset ● 4: abnormal dataset ● 5: synchronizing dataset ● 6: releasing dataset ● 7: dataset in version switching ● 8: importing dataset
third_path	String	Third-party path.
total_sample_count	Integer	Total number of dataset samples.
total_sub_sample_count	Integer	Total number of subsamples generated from the parent samples. For example, the total number of key frame images extracted from the video labeling dataset is that of subsamples.
unconfirmed_sample_count	Integer	Number of auto labeling samples to be confirmed.
update_time	Long	Time when a dataset is updated.

Parameter	Type	Description
versions	Array of DatasetVersion objects	Dataset version information. Currently, only the current version information of a dataset is recorded.
work_path	String	Output dataset path, which is used to store output files such as label files. The path is an OBS path in the format of <i>/Bucket name/File path</i> . For example: /obs-bucket .
work_path_type	Integer	Type of the dataset output path. The default value is 0, indicating an OBS bucket.
workforce_descriptor	WorkforceDescriptor object	Team labeling information.
workforce_task_count	Integer	Number of team labeling tasks of a dataset.
workspace_id	String	Workspace ID. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.

Table 16-37 DataSource

Parameter	Type	Description
data_path	String	Data source path.
data_type	Integer	Data type. Options: <ul style="list-style-type: none"> ● 0: OBS bucket (default value) ● 1: GaussDB(DWS) ● 2: DLI ● 3: RDS ● 4: MRS ● 5: AI Gallery ● 6: Inference service
schema_maps	Array of SchemaMap objects	Schema mapping information corresponding to the table data.
source_info	SourceInfo object	Information required for importing a table data source.

Parameter	Type	Description
with_column_header	Boolean	Whether the first row in the file is a column name. This field is valid for the table dataset. Options: <ul style="list-style-type: none"> • true: The first row in the file is the column name. • false: The first row in the file is not the column name.

Table 16-38 SchemaMap

Parameter	Type	Description
dest_name	String	Name of the destination column.
src_name	String	Name of the source column.

Table 16-39 SourceInfo

Parameter	Type	Description
cluster_id	String	MRS cluster ID. You can log in to the MRS console to view the information.
cluster_mode	String	Running mode of an MRS cluster. Options: <ul style="list-style-type: none"> • 0: normal cluster • 1: security cluster
cluster_name	String	MRS cluster name You can log in to the MRS console to view the information.
database_name	String	Name of the database to which the table dataset is imported.
input	String	HDFS path of the table data set. For example, / datasets/demo.
ip	String	IP address of your GaussDB(DWS) cluster.
port	String	Port number of your GaussDB(DWS) cluster.
queue_name	String	DLI queue name of a table dataset.
subnet_id	String	Subnet ID of an MRS cluster.
table_name	String	Name of the table to which a table dataset is imported.
user_name	String	Username, which is mandatory for GaussDB(DWS) data.

Parameter	Type	Description
user_password	String	User password, which is mandatory for GaussDB(DWS) data.
vpc_id	String	ID of the VPC where an MRS cluster resides.

Table 16-40 Label

Parameter	Type	Description
attributes	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
name	String	Label name.
property	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-41 Field

Parameter	Type	Description
description	String	Schema description.
name	String	Schema name.
schema_id	Integer	Schema ID.
type	String	Schema value type.

Table 16-42 DatasetVersion

Parameter	Type	Description
add_sample_count	Integer	Number of added samples.
analysis_cache_path	String	Cache path for feature analysis.
analysis_status	Integer	Status of a feature analysis task. Options: <ul style="list-style-type: none"> ● 0: initialized ● 1: running ● 2: completed ● 3: failed
analysis_task_id	String	ID of a feature analysis task.
annotated_sample_count	Integer	Number of samples with labeled versions.
annotated_sub_sample_count	Integer	Number of labeled subsamples.
clear_hard_property	Boolean	Whether to clear hard example properties during release. Options: <ul style="list-style-type: none"> ● true: Clear hard example properties. (Default value) ● false: Do not clear hard example properties.
code	String	Status code of a preprocessing task such as rotation and cropping.
create_time	Long	Time when a version is created.
crop	Boolean	Whether to crop the image. This field is valid only for the object detection dataset whose labeling box is in the rectangle shape. Options: <ul style="list-style-type: none"> ● true: Crop the image. ● false: Do not crop the image. (Default value)
crop_path	String	Path for storing cropped files.
crop_rotate_cache_path	String	Temporary directory for executing the rotation and cropping task.
data_analysis	Map<String,Object>	Feature analysis result in JSON format.
data_path	String	Path for storing data.

Parameter	Type	Description
data_statistics	Map<String,Object>	Sample statistics on a dataset, including the statistics on sample metadata in JSON format.
data_validate	Boolean	Whether data is validated by the validation algorithm before release. Options: <ul style="list-style-type: none"> ● true: The data has been validated. ● false: The data has not been validated.
deleted_sample_count	Integer	Number of deleted samples.
deletion_stats	Map<String,Integer>	Deletion reason statistics.
description	String	Description of a version.
export_images	Boolean	Whether to export images to the version output directory during release. Options: <ul style="list-style-type: none"> ● true: Export images to the version output directory. ● false: Do not export images to the version output directory. (Default value)
extract_serial_number	Boolean	Whether to parse the subsample number during release. The field is valid for the healthcare dataset. Options: <ul style="list-style-type: none"> ● true: Parse the subsample number. ● false: Do not parse the subsample number. (Default value)
include_dataset_data	Boolean	Whether to include the source data of a dataset during release. Options: <ul style="list-style-type: none"> ● true: The source data of a dataset is included. ● false: The source data of a dataset is not included.
is_current	Boolean	Whether the current dataset version is used. Options: <ul style="list-style-type: none"> ● true: The current dataset version is used. ● false: The current dataset version is not used.
label_stats	Array of LabelStats objects	Label statistics list of a released version.
label_type	String	Label type of a released version. Options: <ul style="list-style-type: none"> ● multi: Multi-label samples are included. ● single: All samples are single-labeled.

Parameter	Type	Description
manifest_cache_input_path	String	Input path for the manifest file cache during version release.
manifest_path	String	Path for storing the manifest file with the released version.
message	String	Task information recorded during release (for example, error information).
modified_sample_count	Integer	Number of modified samples.
previous_annotated_sample_count	Integer	Number of labeled samples of parent versions.
previous_total_sample_count	Integer	Total samples of parent versions.
previous_version_id	String	Parent version ID
processor_task_id	String	ID of a preprocessing task such as rotation and cropping.
processor_task_status	Integer	Status of a preprocessing task such as rotation and cropping. The options are as follows: <ul style="list-style-type: none"> ● 0: initialized - 1: running ● 2: completed ● 3: failed ● 4: stopped ● 5: timeout ● 6: Deletion failed. ● 7: Failed to stop.
remove_sample_usage	Boolean	Whether to clear the existing usage information of a dataset during release. Options: <ul style="list-style-type: none"> ● true: Clear the existing usage information of a dataset. (Default value) ● false: Do not clear the existing usage information of a dataset.
rotate	Boolean	Whether to rotate the image. Options: <ul style="list-style-type: none"> ● true: Rotate the image. ● false: Do not rotate the image. (Default value)
rotate_path	String	Path for storing the rotated file.

Parameter	Type	Description
sample_state	String	Sample status. The options are as follows: <ul style="list-style-type: none"> • <code>__ALL__</code>: labeled • <code>__NONE__</code>: not marked • <code>__UNCHECK__</code>: to be accepted • <code>__ACCEPTED__</code>: The acceptance is passed. • <code>__REJECTED__</code>: rejected • <code>__UNREVIEWED__</code>: to be reviewed • <code>__REVIEWED__</code>: approved • <code>__WORKFORCE_SAMPLED__</code>: sampled • <code>__WORKFORCE_SAMPLED_UNCHECK__</code>: Sampling is to be accepted. • <code>__WORKFORCE_SAMPLED_CHECKED__</code>: Sampling has been accepted. • <code>__WORKFORCE_SAMPLED_ACCEPTED__</code>: The sampling is passed. • <code>__WORKFORCE_SAMPLED_REJECTED__</code>: The sampling has been rejected. • <code>__AUTO_ANNOTATION__</code>: to be confirmed
start_processor_task	Boolean	Whether to start a data analysis task during release. Options: <ul style="list-style-type: none"> • true: Start a data analysis task during release. • false: Do not start a data analysis task during release. (Default value)
status	Integer	Status of a dataset version. Options: <ul style="list-style-type: none"> • 0: creating • 1: running • 2: deleting • 3: deleted • 4: error
tags	Array of strings	Key identifier list of the dataset. The labeling type is used as the default label when the labeling task releases a version. For example, ["Image", "Object detection"].
task_type	Integer	Labeling task type of the released version, which is the same as the dataset type.
total_sample_count	Integer	Total number of version samples.
total_sub_sample_count	Integer	Total number of subsamples generated from the parent samples.

Parameter	Type	Description
train_evaluate_sample_ratio	String	Split training and verification ratio during version release. The default value is 1.00 , indicating that all released versions are training sets.
update_time	Long	Time when a version is updated.
version_format	String	Format of a dataset version. Options: <ul style="list-style-type: none"> • Default: default format • CarbonData: CarbonData (supported only by table datasets) • CSV: CSV
version_id	String	Dataset version ID.
version_name	String	Dataset version name.
with_column_header	Boolean	Whether the first row in the released CSV file is a column name. This field is valid for the table dataset. Options: <ul style="list-style-type: none"> • true: The first row in the released CSV file is a column name. • false: The first row in the released CSV file is not a column name.

Table 16-43 LabelStats

Parameter	Type	Description
attributes	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
count	Integer	Number of labels.
name	String	Label name.
property	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.
sample_count	Integer	Number of samples containing the label.

Parameter	Type	Description
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-44 LabelAttribute

Parameter	Type	Description
default_value	String	Default value of a label attribute.
id	String	Label attribute ID. You can query the tag by invoking the tag list.
name	String	Label attribute name. The value contains a maximum of 64 characters and cannot contain the character. <>=&''.
type	String	Label attribute type. Options: <ul style="list-style-type: none"> ● text: text ● select: single-choice drop-down list
values	Array of LabelAttributeValue objects	List of label attribute values.

Table 16-45 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

Table 16-46 LabelProperty

Parameter	Type	Description
@modelarts:color	String	Default attribute: Label color, which is a hexadecimal code of the color. By default, this parameter is left blank. Example: #FFFFFF0 .
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> ● bndbox: rectangle ● polygon: polygon ● circle: circle ● line: straight line ● dashed: dotted line ● point: point ● polyline: polyline
@modelarts:from_type	String	Default attribute: Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.
@modelarts:rename_to	String	Default attribute: The new name of the label.
@modelarts:shortcut	String	Default attribute: Label shortcut key. By default, this parameter is left blank. For example: D .
@modelarts:to_type	String	Default attribute: Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Table 16-47 WorkforceDescriptor

Parameter	Type	Description
current_task_id	String	ID of a team labeling task.
current_task_name	String	Name of a team labeling task.
reject_num	Integer	Number of rejected samples.
repetition	Integer	Number of persons who label each sample. The minimum value is 1 .

Parameter	Type	Description
is_synchronize_auto_labeling_data	Boolean	Whether to synchronously update auto labeling data. Options: <ul style="list-style-type: none"> ● true: Update auto labeling data synchronously. ● false: Do not update auto labeling data synchronously.
is_synchronize_data	Boolean	Whether to synchronize updated data, such as uploading files, synchronizing data sources, and assigning imported unlabeled files to team members. Options: <ul style="list-style-type: none"> ● true: Synchronize updated data to team members. ● false: Do not synchronize updated data to team members.
workers	Array of Worker objects	List of labeling team members.
workforce_id	String	ID of a labeling team.
workforce_name	String	Name of a labeling team.

Table 16-48 Worker

Parameter	Type	Description
create_time	Long	Creation time.
description	String	Labeling team member description. The value contains 0 to 256 characters and does not support the following special characters: ^! <>=&"
email	String	Email address of a labeling team member.
role	Integer	Role. Options: <ul style="list-style-type: none"> ● 0: labeling personnel ● 1: reviewer ● 2: team administrator ● 3: dataset owner

Parameter	Type	Description
status	Integer	Current login status of a labeling team member. Options: <ul style="list-style-type: none"> ● 0: The invitation email has not been sent. ● 1: The invitation email has been sent but the user has not logged in. ● 2: The user has logged in. ● 3: The labeling team member has been deleted.
update_time	Long	Update time.
worker_id	String	ID of a labeling team member.
workforce_id	String	ID of a labeling team.

Example Requests

Querying Details About a Dataset

```
GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}
```

Example Responses

Status code: 200

OK

```
{
  "dataset_id": "gfgHHSokody6AJigS5A",
  "dataset_name": "dataset-f9e8",
  "dataset_type": 0,
  "data_format": "Default",
  "next_version_num": 4,
  "status": 1,
  "data_sources": [ {
    "data_type": 0,
    "data_path": "/test-obs/classify/input/animals/"
  } ],
  "create_time": 1605690595404,
  "update_time": 1605690595404,
  "description": "",
  "current_version_id": "54IXbeJhfttGpL46lbv",
  "current_version_name": "V003",
  "total_sample_count": 10,
  "annotated_sample_count": 10,
  "unconfirmed_sample_count": 0,
  "work_path": "/test-obs/classify/output/",
  "inner_work_path": "/test-obs/classify/output/dataset-f9e8-gfgHHSokody6AJigS5A/",
  "inner_annotation_path": "/test-obs/classify/output/dataset-f9e8-gfgHHSokody6AJigS5A/annotation/",
  "inner_data_path": "/test-obs/classify/output/dataset-f9e8-gfgHHSokody6AJigS5A/data/",
  "inner_log_path": "/test-obs/classify/output/dataset-f9e8-gfgHHSokody6AJigS5A/logs/",
  "inner_temp_path": "/test-obs/classify/output/dataset-f9e8-gfgHHSokody6AJigS5A/temp/",
  "inner_task_path": "/test-obs/classify/output/dataset-f9e8-gfgHHSokody6AJigS5A/task/",
  "work_path_type": 0,
  "workspace_id": "0",
  "enterprise_project_id": "0",
  "workforce_task_count": 0,
}
```

```
"feature_supports" : [ "0" ],
"managed" : false,
"import_data" : false,
"label_task_count" : 1,
"dataset_format" : 0,
"dataset_version_count" : 3,
"content_labeling" : true,
"labels" : [ {
  "name" : "Rabbits",
  "type" : 0,
  "property" : {
    "@modelarts:color" : "#3399ff"
  }
}, {
  "name" : "Bees",
  "type" : 0,
  "property" : {
    "@modelarts:color" : "#3399ff"
  }
} ]
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.4 Modifying a Dataset

Function

Modify basic information about a dataset, such as name, description, version, and labels.

Debugging

You can debug this API in [API Explorer](#) which supports automatic authentication. API Explorer can automatically generate SDK code examples and provide the SDK code example debugging.

URI

PUT /v2/{project_id}/datasets/{dataset_id}

Table 16-49 URI parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Request Parameters

Table 16-50 Request body parameters

Parameter	Mandatory	Type	Description
add_labels	No	Array of Label objects	List of added labels
current_version_id	No	String	Current version ID of a dataset
dataset_name	No	String	Dataset name, which can contain 1 to 100 characters. Only letters, digits, numbers, underscores (_) and hyphens (-) are supported.
delete_labels	No	Array of Label objects	List of labels to be deleted
description	No	String	Dataset description. The value contains 0 to 256 characters. Special characters (^!<>=&") are not allowed.
update_labels	No	Array of Label objects	List of labels to be updated

Table 16-51 Label

Parameter	Mandatory	Type	Description
attributes	No	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music , attributes can be genre or artist .
name	No	String	Label name

Parameter	Mandatory	Type	Description
property	No	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.
type	No	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-52 LabelAttribute

Parameter	Mandatory	Type	Description
default_value	No	String	Default value of a label attribute
id	No	String	Label attribute ID, which can be obtained in the label list.
name	No	String	Label attribute name, which can contain a maximum of 64 characters. Special characters (!<>=&"') cannot be included.
type	No	String	Label attribute type. Options: <ul style="list-style-type: none"> ● text: Select a text label. ● select: Select from the drop-down list.
values	No	Array of LabelAttributeValue objects	List of label attribute values

Table 16-53 LabelAttributeValue

Parameter	Mandatory	Type	Description
id	No	String	Label attribute value ID
value	No	String	Label attribute value

Table 16-54 LabelProperty

Parameter	Mandatory	Type	Description
@modelarts:color	No	String	Label color, which is a hexadecimal code of the color. The default value is left blank. For example, #FFFFFF0 .
@modelarts:default_shape	No	String	Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dashed line • point: point • polyline: polyline
@modelarts:from_type	No	String	Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.
@modelarts:rename_to	No	String	The new name of the label
@modelarts:shortcut	No	String	Label shortcut key, for example, D . By default, this parameter is left blank.

Parameter	Mandatory	Type	Description
@modelarts:tail_entity_type	No	String	Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Response Parameters

Status code: 200

Table 16-55 Response body parameters

Parameter	Type	Description
dataset_id	String	Dataset ID

Request Example

Run the following command to update a dataset:

```
{
  "description": "just a test",
  "add_labels": [{
    "name": "Ants",
    "type": 0,
    "property": {
      "@modelarts:color": "#3399ff"
    }
  }]
}
```

Response Example

Status code: 200

OK

```
{
  "dataset_id": "gfgHsokody6AJigS5A"
}
```

Status Code

Status Code	Description
200	OK
401	Unauthorized

Status Code	Description
403	Forbidden
404	Not Found

Error Code

For details, see [Error Codes](#).

16.1.5 Deleting a Dataset

Function

This API is used to delete a dataset without deleting the source data of the dataset.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v2/{project_id}/datasets/{dataset_id}

Table 16-56 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

None

Example Requests

Deleting a Dataset

DELETE https://{endpoint}/v2/{project_id}/datasets/{dataset_id}

Example Responses

Status code: 204

No Content

```
{ }
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden

Error Codes

See [Error Codes](#).

16.1.6 Obtaining Dataset Statistics

Function

Obtain dataset statistics.

Debugging

You can debug this API in [API Explorer](#) which supports automatic authentication. API Explorer can automatically generate SDK code examples and provide the SDK code example debugging.

URI

GET /v2/{project_id}/datasets/{dataset_id}/data-annotations/stats

Table 16-57 URI parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 16-58 Query parameters

Parameter	Mandatory	Type	Description
email	No	String	Email address of a labeling team member
locale	No	String	Language . Options: <ul style="list-style-type: none"> • zh-cn: Chinese • en-us: English (default value)
sample_state	No	String	Statistics on the specified sample state. Options: <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: unlabeled • __UNCHECK__: to be accepted • __ACCEPTED__: accepted • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: reviewed • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: sampling pending check • __WORKFORCE_SAMPLED_CHECKED__: sampling checked • __WORKFORCE_SAMPLED_ACCEPTED__: sampling accepted • __WORKFORCE_SAMPLED_REJECTED__: sampling rejected • __AUTO_ANNOTATION__: to be confirmed

Request Parameters

None

Response Parameters

Status code: 200

Table 16-59 Response body parameters

Parameter	Type	Description
data_path	String	Path for storing data of a dataset
data_splitting_enable	Boolean	Whether the dataset can be split into training set and validation set based on the sample labeling statistics. Options: <ul style="list-style-type: none"> • true: The dataset can be split into training and validation sets. • false: The dataset cannot be split into training and validation sets.
grouped_label_stats	Map<String,Array<LabelStats>>	Label statistics grouped by labeling type
hard_detail_stats	Map<String,PairOfIntAndHardDetail>	Statistics on hard example reasons. The type is <i>Map<Integer, Pair<Integer, HardDetail>></i> . The key of Map indicates the ID of the hard example reason, the key of Pair indicates how many times has the hard example reason occurred, and the value of Pair indicates the hard example reason.
key_sample_stats	Map<String,Integer>	Statistics on hard examples
label_stats	Array of LabelStats objects	List of label statistics
metadata_stats	Map<String,Object>	Statistics on sample metadata in JSON format.
sample_stats	Map<String,Integer>	Statistics on sample status

Table 16-60 LabelStats

Parameter	Type	Description
attributes	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
count	Integer	Number of labels
name	String	Label name
property	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.

Parameter	Type	Description
sample_count	Integer	Number of samples containing the label
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-61 PairOfIntAndHardDetail

Parameter	Type	Description
key	Integer	Number of times that a hard example reason occurs
value	HardDetail object	Reason for a hard example

Table 16-62 HardDetail

Parameter	Type	Description
alo_name	String	Alias
id	Integer	Reason ID
reason	String	Reason description
suggestion	String	Handling suggestion

Table 16-63 LabelAttribute

Parameter	Type	Description
default_value	String	Default value of a label attribute

Parameter	Type	Description
id	String	Label attribute ID, which can be obtained in the label list.
name	String	Label attribute name, which can contain a maximum of 64 characters. Special characters (!<>=&"') cannot be included.
type	String	Label attribute type. Options: <ul style="list-style-type: none"> ● text: Select a text label. ● select: Select from the drop-down list.
values	Array of LabelAttributeValue objects	List of label attribute values

Table 16-64 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID
value	String	Label attribute value

Table 16-65 LabelProperty

Parameter	Type	Description
@modelarts:color	String	Label color, which is a hexadecimal code of a color, for example, #FFFFFF0 . The default value is left blank.
@modelarts:default_shape	String	Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> ● bndbox: rectangle ● polygon: polygon ● circle: circle ● line: straight line ● dashed: dashed line ● point: point ● polyline: polyline

Parameter	Type	Description
@modelarts:from_type	String	Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.
@modelarts:rename_to	String	The new name of the label
@modelarts:shortcut	String	Label shortcut key, for example, D . By default, this parameter is left blank.
@modelarts:to_type	String	Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Request Example

Run the following command to obtain dataset statistics:

```
GET https://{endpoint}/v2/{project_id}/datasets/WxCREuCkBSAlQr9xrde/data-annotations/stats
```

Response Example

Status code: 200

OK

```
{
  "label_stats" : [ {
    "name" : "Bees",
    "type" : 1,
    "property" : {
      "@modelarts:color" : "#3399ff"
    },
    "count" : 8,
    "sample_count" : 5
  } ],
  "sample_stats" : {
    "un_annotation" : 309,
    "all" : 317,
    "total" : 317,
    "deleted" : 0,
    "manual_annotation" : 8,
    "auto_annotation" : 0,
    "lefted" : 317
  },
  "key_sample_stats" : {
    "total" : 317,
    "non_key_sample" : 315,
    "key_sample" : 2
  },
  "metadata_stats" : { },
  "data_splitting_enable" : false
}
```

Status Code

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Code

For details, see [Error Codes](#).

16.1.7 Querying the Monitoring Data of a Dataset

Function

This API is used to query the monitoring data of a dataset within a specified time range.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}/metrics

Table 16-66 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Table 16-67 Query Parameters

Parameter	Mandatory	Type	Description
end_time	Yes	Long	End time of the monitoring information.

Parameter	Mandatory	Type	Description
start_time	Yes	Long	Start time of the monitoring information.
workforce_task_id	No	String	ID of a team labeling task.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-68 Response body parameters

Parameter	Type	Description
metrics	Map<String,Map<String,Integer>>	Dataset monitoring information.

Example Requests

Querying the Monitoring Data of a Dataset

GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/metrics

Example Responses

Status code: 200

OK

```
{
  "metrics": {
    "un_annotation": {
      "1606233612612": 16,
      "1606320012681": 16
    },
    "failed_user": {},
    "total": {
      "1606233612612": 16,
      "1606320012681": 16
    },
    "queuing": {},
    "success": {},
    "unfinished": {},
    "manual_annotation": {
      "1606233612612": 0,
      "1606320012681": 0
    },
    "failed": {},
    "failed_system": {}
  }
}
```

```
}  
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.8 Querying the Dataset Version List

Function

This API is used to query the version list of a specific dataset.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}/versions

Table 16-69 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Table 16-70 Query Parameters

Parameter	Mandatory	Type	Description
status	No	Integer	Status of a dataset version. Options: <ul style="list-style-type: none"> • 0: creating • 1: running • 2: deleting • 3: deleted • 4: error
train_evaluate_ratio	No	String	Version split ratio for version filtering. The numbers before and after the comma indicate the minimum and maximum split ratios, and the versions whose split ratios are within the range are filtered out, for example, 0.0,1.0 . Note: If this parameter is left blank or unavailable, the system does not filter datasets based on the version split ratio by default.
version_format	No	Integer	Format of a dataset version. Options: <ul style="list-style-type: none"> • 0: default format • 1: CarbonData (supported only by table datasets) • 2: CSV
offset	No	Integer	Start page for pagination display. The default value is 0 .
limit	No	Integer	Maximum number of records returned on each page. The value ranges from 1 to 1000. The default value is 1000 .

Request Parameters

None

Response Parameters

Status code: **200**

Table 16-71 Response body parameters

Parameter	Type	Description
total_number	Integer	Total number of dataset versions.
versions	Array of DatasetVersion objects	Dataset version list.

Table 16-72 DatasetVersion

Parameter	Type	Description
add_sample_count	Integer	Number of added samples.
analysis_cache_path	String	Cache path for feature analysis.
analysis_status	Integer	Status of a feature analysis task. Options: <ul style="list-style-type: none"> • 0: initialized • 1: running • 2: completed • 3: failed
analysis_task_id	String	ID of a feature analysis task.
annotated_sample_count	Integer	Number of samples with labeled versions.
annotated_sub_sample_count	Integer	Number of labeled subsamples.
clear_hard_property	Boolean	Whether to clear hard example properties during release. Options: <ul style="list-style-type: none"> • true: Clear hard example properties. (Default value) • false: Do not clear hard example properties.
code	String	Status code of a preprocessing task such as rotation and cropping.
create_time	Long	Time when a version is created.

Parameter	Type	Description
crop	Boolean	Whether to crop the image. This field is valid only for the object detection dataset whose labeling box is in the rectangle shape. Options: <ul style="list-style-type: none"> • true: Crop the image. • false: Do not crop the image. (Default value)
crop_path	String	Path for storing cropped files.
crop_rotate_cache_path	String	Temporary directory for executing the rotation and cropping task.
data_analysis	Map<String,Object>	Feature analysis result in JSON format.
data_path	String	Path for storing data.
data_statistics	Map<String,Object>	Sample statistics on a dataset, including the statistics on sample metadata in JSON format.
data_validate	Boolean	Whether data is validated by the validation algorithm before release. Options: <ul style="list-style-type: none"> • true: The data has been validated. • false: The data has not been validated.
deleted_sample_count	Integer	Number of deleted samples.
deletion_stats	Map<String,Integer>	Deletion reason statistics.
description	String	Description of a version.
export_images	Boolean	Whether to export images to the version output directory during release. Options: <ul style="list-style-type: none"> • true: Export images to the version output directory. • false: Do not export images to the version output directory. (Default value)
extract_serial_number	Boolean	Whether to parse the subsample number during release. The field is valid for the healthcare dataset. Options: <ul style="list-style-type: none"> • true: Parse the subsample number. • false: Do not parse the subsample number. (Default value)

Parameter	Type	Description
include_dataset_data	Boolean	Whether to include the source data of a dataset during release. Options: <ul style="list-style-type: none"> • true: The source data of a dataset is included. • false: The source data of a dataset is not included.
is_current	Boolean	Whether the current dataset version is used. Options: <ul style="list-style-type: none"> • true: The current dataset version is used. • false: The current dataset version is not used.
label_stats	Array of LabelStats objects	Label statistics list of a released version.
label_type	String	Label type of a released version. Options: <ul style="list-style-type: none"> • multi: Multi-label samples are included. • single: All samples are single-labeled.
manifest_cache_input_path	String	Input path for the manifest file cache during version release.
manifest_path	String	Path for storing the manifest file with the released version.
message	String	Task information recorded during release (for example, error information).
modified_sample_count	Integer	Number of modified samples.
previous_annotated_sample_count	Integer	Number of labeled samples of parent versions.
previous_total_sample_count	Integer	Total samples of parent versions.
previous_version_id	String	Parent version ID
processor_task_id	String	ID of a preprocessing task such as rotation and cropping.

Parameter	Type	Description
processor_task_status	Integer	Status of a preprocessing task such as rotation and cropping. The options are as follows: <ul style="list-style-type: none"> ● 0: initialized - 1: running ● 2: completed ● 3: failed ● 4: stopped ● 5: timeout ● 6: Deletion failed. ● 7: Failed to stop.
remove_sample_usage	Boolean	Whether to clear the existing usage information of a dataset during release. Options: <ul style="list-style-type: none"> ● true: Clear the existing usage information of a dataset. (Default value) ● false: Do not clear the existing usage information of a dataset.
rotate	Boolean	Whether to rotate the image. Options: <ul style="list-style-type: none"> ● true: Rotate the image. ● false: Do not rotate the image. (Default value)
rotate_path	String	Path for storing the rotated file.
sample_state	String	Sample status. The options are as follows: <ul style="list-style-type: none"> ● __ALL__: labeled ● __NONE__: not marked ● __UNCHECK__: to be accepted ● __ACCEPTED__: The acceptance is passed. ● __REJECTED__: rejected ● __UNREVIEWED__: to be reviewed ● __REVIEWED__: approved ● __WORKFORCE_SAMPLED__: sampled ● __WORKFORCE_SAMPLED_UNCHECK__: Sampling is to be accepted. ● __WORKFORCE_SAMPLED_CHECKED__: Sampling has been accepted. ● __WORKFORCE_SAMPLED_ACCEPTED__: The sampling is passed. ● __WORKFORCE_SAMPLED_REJECTED__: The sampling has been rejected. ● __AUTO_ANNOTATION__: to be confirmed

Parameter	Type	Description
start_processor_task	Boolean	Whether to start a data analysis task during release. Options: <ul style="list-style-type: none"> ● true: Start a data analysis task during release. ● false: Do not start a data analysis task during release. (Default value)
status	Integer	Status of a dataset version. Options: <ul style="list-style-type: none"> ● 0: creating ● 1: running ● 2: deleting ● 3: deleted ● 4: error
tags	Array of strings	Key identifier list of the dataset. The labeling type is used as the default label when the labeling task releases a version. For example, ["Image", "Object detection"].
task_type	Integer	Labeling task type of the released version, which is the same as the dataset type.
total_sample_count	Integer	Total number of version samples.
total_sub_sample_count	Integer	Total number of subsamples generated from the parent samples.
train_evaluate_sample_ratio	String	Split training and verification ratio during version release. The default value is 1.00 , indicating that all released versions are training sets.
update_time	Long	Time when a version is updated.
version_format	String	Format of a dataset version. Options: <ul style="list-style-type: none"> ● Default: default format ● CarbonData: CarbonData (supported only by table datasets) ● CSV: CSV
version_id	String	Dataset version ID.
version_name	String	Dataset version name.

Parameter	Type	Description
with_column_header	Boolean	Whether the first row in the released CSV file is a column name. This field is valid for the table dataset. Options: <ul style="list-style-type: none"> ● true: The first row in the released CSV file is a column name. ● false: The first row in the released CSV file is not a column name.

Table 16-73 LabelStats

Parameter	Type	Description
attributes	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
count	Integer	Number of labels.
name	String	Label name.
property	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.
sample_count	Integer	Number of samples containing the label.
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-74 LabelAttribute

Parameter	Type	Description
default_value	String	Default value of a label attribute.

Parameter	Type	Description
id	String	Label attribute ID. You can query the tag by invoking the tag list.
name	String	Label attribute name. The value contains a maximum of 64 characters and cannot contain the character. <>=&".
type	String	Label attribute type. Options: <ul style="list-style-type: none"> • text: text • select: single-choice drop-down list
values	Array of LabelAttributeValue objects	List of label attribute values.

Table 16-75 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

Table 16-76 LabelProperty

Parameter	Type	Description
@modelarts:color	String	Default attribute: Label color, which is a hexadecimal code of the color. By default, this parameter is left blank. Example: #FFFFFF0 .
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dotted line • point: point • polyline: polyline

Parameter	Type	Description
@modelarts:from_type	String	Default attribute: Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.
@modelarts:rename_to	String	Default attribute: The new name of the label.
@modelarts:shortcut	String	Default attribute: Label shortcut key. By default, this parameter is left blank. For example: D .
@modelarts:to_type	String	Default attribute: Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Example Requests

Querying the Version List of a Specific Dataset

GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/versions

Example Responses

Status code: 200

OK

```
{
  "total_number" : 3,
  "versions" : [ {
    "version_id" : "54IXbeJhfttGpL46lbv",
    "version_name" : "V003",
    "version_format" : "Default",
    "previous_version_id" : "eSOKEQaXhKzxN00WkoV",
    "status" : 1,
    "create_time" : 1605930512183,
    "total_sample_count" : 10,
    "annotated_sample_count" : 10,
    "total_sub_sample_count" : 0,
    "annotated_sub_sample_count" : 0,
    "manifest_path" : "/test-obs/classify/output/dataset-f9e8-gfghHSokody6AJigS5A/annotation/V003/V003.manifest",
    "data_path" : "/test-obs/classify/output/dataset-f9e8-gfghHSokody6AJigS5A/annotation/V003/data/",
    "is_current" : true,
    "analysis_status" : 3,
    "train_evaluate_sample_ratio" : "0.8",
    "remove_sample_usage" : false,
    "export_images" : false,
    "description" : "",
    "task_type" : 0,
    "extract_serial_number" : false
  }, {
    "version_id" : "eSOKEQaXhKzxN00WkoV",
    "version_name" : "V002",
```

```

"version_format": "Default",
"previous_version_id": "v1GvUqOcxxGPIB0ugeE",
"status": 1,
"create_time": 1605691027084,
"total_sample_count": 10,
"annotated_sample_count": 10,
"total_sub_sample_count": 0,
"annotated_sub_sample_count": 0,
"manifest_path": "/test-obs/classify/output/dataset-f9e8-gfghHSokody6AJigS5A/annotation/V002/
V002.manifest",
"data_path": "/test-obs/classify/output/dataset-f9e8-gfghHSokody6AJigS5A/annotation/V002/data/",
"is_current": false,
"analysis_status": 3,
"train_evaluate_sample_ratio": "0.9999",
"remove_sample_usage": false,
"export_images": false,
"description": "",
"task_type": 0,
"extract_serial_number": false
}, {
"version_id": "v1GvUqOcxxGPIB0ugeE",
"version_name": "V001",
"version_format": "Default",
"status": 1,
"create_time": 1605690687346,
"total_sample_count": 10,
"annotated_sample_count": 10,
"total_sub_sample_count": 0,
"annotated_sub_sample_count": 0,
"manifest_path": "/test-obs/classify/output/dataset-f9e8-gfghHSokody6AJigS5A/annotation/V001/
V001.manifest",
"data_path": "/test-obs/classify/output/dataset-f9e8-gfghHSokody6AJigS5A/annotation/V001/data/",
"is_current": false,
"analysis_status": 3,
"train_evaluate_sample_ratio": "0.99",
"remove_sample_usage": false,
"export_images": false,
"description": "",
"task_type": 0,
"extract_serial_number": false
} ]
}

```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.9 Creating a Dataset Labeling Version

Function

This API is used to create a dataset labeling version.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/versions

Table 16-77 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Request Parameters

Table 16-78 Request body parameters

Parameter	Mandatory	Type	Description
clear_hard_property	No	Boolean	Whether to clear hard example properties. Options: <ul style="list-style-type: none"> true: Clear hard example properties. (Default value) false: Do not clear hard example properties.
description	No	String	Version description. The value is empty by default. The description contains 0 to 256 characters and does not support the following special characters: !<>=&''

Parameter	Mandatory	Type	Description
export_images	No	Boolean	Whether to export images to the version output directory during release. Options: <ul style="list-style-type: none"> • true: Export images to the version output directory. • false: Do not export images to the version output directory. (Default value)
remove_sample_usage	No	Boolean	Whether to clear the existing usage information of a dataset during release. Options: <ul style="list-style-type: none"> • true: Clear the existing usage information of a dataset. (Default value) • false: Do not clear the existing usage information of a dataset.
train_evaluate_sample_ratio	No	String	Split training and verification ratio during version release. The default value is 1.00 , indicating that all released versions are training sets.
version_format	No	String	Format of a dataset version. Options: <ul style="list-style-type: none"> • Default • CarbonData (supported only by table datasets) • CSV
version_name	No	String	Version name consisting of 1 to 32 characters. Only letters, digits, underscores (_), and hyphens (-) are allowed.
with_column_header	No	Boolean	Whether to write the column name in the first line of the CSV file during release. This field is valid for the table dataset. Options: <ul style="list-style-type: none"> • true: Write the column name in the first line of the CSV file. (Default value) • false: Do not write the column name in the first line of the CSV file.

Response Parameters

Status code: 201

Table 16-79 Response body parameters

Parameter	Type	Description
version_id	String	Dataset version ID.

Example Requests

The following is an example of how to create a dataset labeling version whose version name is **V004** and the format of the dataset version is **Default**.

```
{
  "version_name" : "V004",
  "version_format" : "Default",
  "description" : "",
  "clear_hard_property" : true
}
```

Example Responses

Status code: 201

Created

```
{
  "version_id" : "sntOdOuB0D9C6fC4TXs"
}
```

Status Codes

Status Code	Description
201	Created
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.10 Querying Details About a Dataset Version

Function

This API is used to query the details about a dataset version.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}/versions/{version_id}

Table 16-80 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
version_id	Yes	String	Dataset version ID.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-81 Response body parameters

Parameter	Type	Description
add_sample_count	Integer	Number of added samples.
analysis_cache_path	String	Cache path for feature analysis.

Parameter	Type	Description
analysis_status	Integer	Status of a feature analysis task. Options: <ul style="list-style-type: none"> ● 0: initialized ● 1: running ● 2: completed ● 3: failed
analysis_task_id	String	ID of a feature analysis task.
annotated_sample_count	Integer	Number of samples with labeled versions.
annotated_sub_sample_count	Integer	Number of labeled subsamples.
clear_hard_property	Boolean	Whether to clear hard example properties during release. Options: <ul style="list-style-type: none"> ● true: Clear hard example properties. (Default value) ● false: Do not clear hard example properties.
code	String	Status code of a preprocessing task such as rotation and cropping.
create_time	Long	Time when a version is created.
crop	Boolean	Whether to crop the image. This field is valid only for the object detection dataset whose labeling box is in the rectangle shape. Options: <ul style="list-style-type: none"> ● true: Crop the image. ● false: Do not crop the image. (Default value)
crop_path	String	Path for storing cropped files.
crop_rotate_cache_path	String	Temporary directory for executing the rotation and cropping task.
data_analysis	Map<String,Object>	Feature analysis result in JSON format.
data_path	String	Path for storing data.
data_statistics	Map<String,Object>	Sample statistics on a dataset, including the statistics on sample metadata in JSON format.
data_validate	Boolean	Whether data is validated by the validation algorithm before release. Options: <ul style="list-style-type: none"> ● true: The data has been validated. ● false: The data has not been validated.

Parameter	Type	Description
deleted_sample_count	Integer	Number of deleted samples.
deletion_stats	Map<String,Integer>	Deletion reason statistics.
description	String	Description of a version.
export_images	Boolean	Whether to export images to the version output directory during release. Options: <ul style="list-style-type: none"> ● true: Export images to the version output directory. ● false: Do not export images to the version output directory. (Default value)
extract_serial_number	Boolean	Whether to parse the subsample number during release. The field is valid for the healthcare dataset. Options: <ul style="list-style-type: none"> ● true: Parse the subsample number. ● false: Do not parse the subsample number. (Default value)
include_dataset_data	Boolean	Whether to include the source data of a dataset during release. Options: <ul style="list-style-type: none"> ● true: The source data of a dataset is included. ● false: The source data of a dataset is not included.
is_current	Boolean	Whether the current dataset version is used. Options: <ul style="list-style-type: none"> ● true: The current dataset version is used. ● false: The current dataset version is not used.
label_stats	Array of LabelStats objects	Label statistics list of a released version.
label_type	String	Label type of a released version. Options: <ul style="list-style-type: none"> ● multi: Multi-label samples are included. ● single: All samples are single-labeled.
manifest_cache_input_path	String	Input path for the manifest file cache during version release.
manifest_path	String	Path for storing the manifest file with the released version.
message	String	Task information recorded during release (for example, error information).

Parameter	Type	Description
modified_sample_count	Integer	Number of modified samples.
previous_annotated_sample_count	Integer	Number of labeled samples of parent versions.
previous_total_sample_count	Integer	Total samples of parent versions.
previous_version_id	String	Parent version ID
processor_task_id	String	ID of a preprocessing task such as rotation and cropping.
processor_task_status	Integer	Status of a preprocessing task such as rotation and cropping. The options are as follows: <ul style="list-style-type: none"> ● 0: initialized - 1: running ● 2: completed ● 3: failed ● 4: stopped ● 5: timeout ● 6: Deletion failed. ● 7: Failed to stop.
remove_sample_usage	Boolean	Whether to clear the existing usage information of a dataset during release. Options: <ul style="list-style-type: none"> ● true: Clear the existing usage information of a dataset. (Default value) ● false: Do not clear the existing usage information of a dataset.
rotate	Boolean	Whether to rotate the image. Options: <ul style="list-style-type: none"> ● true: Rotate the image. ● false: Do not rotate the image. (Default value)
rotate_path	String	Path for storing the rotated file.

Parameter	Type	Description
sample_state	String	Sample status. The options are as follows: <ul style="list-style-type: none"> • <code>__ALL__</code>: labeled • <code>__NONE__</code>: not marked • <code>__UNCHECK__</code>: to be accepted • <code>__ACCEPTED__</code>: The acceptance is passed. • <code>__REJECTED__</code>: rejected • <code>__UNREVIEWED__</code>: to be reviewed • <code>__REVIEWED__</code>: approved • <code>__WORKFORCE_SAMPLED__</code>: sampled • <code>__WORKFORCE_SAMPLED_UNCHECK__</code>: Sampling is to be accepted. • <code>__WORKFORCE_SAMPLED_CHECKED__</code>: Sampling has been accepted. • <code>__WORKFORCE_SAMPLED_ACCEPTED__</code>: The sampling is passed. • <code>__WORKFORCE_SAMPLED_REJECTED__</code>: The sampling has been rejected. • <code>__AUTO_ANNOTATION__</code>: to be confirmed
start_processor_task	Boolean	Whether to start a data analysis task during release. Options: <ul style="list-style-type: none"> • true: Start a data analysis task during release. • false: Do not start a data analysis task during release. (Default value)
status	Integer	Status of a dataset version. Options: <ul style="list-style-type: none"> • 0: creating • 1: running • 2: deleting • 3: deleted • 4: error
tags	Array of strings	Key identifier list of the dataset. The labeling type is used as the default label when the labeling task releases a version. For example, ["Image", "Object detection"].
task_type	Integer	Labeling task type of the released version, which is the same as the dataset type.
total_sample_count	Integer	Total number of version samples.
total_sub_sample_count	Integer	Total number of subsamples generated from the parent samples.

Parameter	Type	Description
train_evaluate_sample_ratio	String	Split training and verification ratio during version release. The default value is 1.00 , indicating that all released versions are training sets.
update_time	Long	Time when a version is updated.
version_format	String	Format of a dataset version. Options: <ul style="list-style-type: none"> • Default: default format • CarbonData: CarbonData (supported only by table datasets) • CSV: CSV
version_id	String	Dataset version ID.
version_name	String	Dataset version name.
with_column_header	Boolean	Whether the first row in the released CSV file is a column name. This field is valid for the table dataset. Options: <ul style="list-style-type: none"> • true: The first row in the released CSV file is a column name. • false: The first row in the released CSV file is not a column name.

Table 16-82 LabelStats

Parameter	Type	Description
attributes	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
count	Integer	Number of labels.
name	String	Label name.
property	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.
sample_count	Integer	Number of samples containing the label.

Parameter	Type	Description
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-83 LabelAttribute

Parameter	Type	Description
default_value	String	Default value of a label attribute.
id	String	Label attribute ID. You can query the tag by invoking the tag list.
name	String	Label attribute name. The value contains a maximum of 64 characters and cannot contain the character. <>=&''.
type	String	Label attribute type. Options: <ul style="list-style-type: none"> ● text: text ● select: single-choice drop-down list
values	Array of LabelAttributeValue objects	List of label attribute values.

Table 16-84 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

Table 16-85 LabelProperty

Parameter	Type	Description
@modelarts:color	String	Default attribute: Label color, which is a hexadecimal code of the color. By default, this parameter is left blank. Example: #FFFFFF0 .
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dotted line • point: point • polyline: polyline
@modelarts:from_type	String	Default attribute: Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.
@modelarts:rename_to	String	Default attribute: The new name of the label.
@modelarts:shortcut	String	Default attribute: Label shortcut key. By default, this parameter is left blank. For example: D .
@modelarts:to_type	String	Default attribute: Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Example Requests

Querying Details About a Dataset Version

```
GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/versions/{version_id}
```

Example Responses

Status code: 200

OK

```
{
  "version_id" : "eSOKEQaXhKzxN00WkoV",
  "version_name" : "V002",
```

```

"version_format" : "Default",
"previous_version_id" : "vIGvUqOcxxGPIB0ugeE",
"status" : 1,
"create_time" : 1605691027084,
"total_sample_count" : 10,
"annotated_sample_count" : 10,
"total_sub_sample_count" : 0,
"annotated_sub_sample_count" : 0,
"manifest_path" : "/test-obs/classify/output/dataset-f9e8-gfghHSokody6AJigS5A/annotation/V002/
V002.manifest",
"data_path" : "/test-obs/classify/output/dataset-f9e8-gfghHSokody6AJigS5A/annotation/V002/data/",
"is_current" : true,
"analysis_status" : 3,
"train_evaluate_sample_ratio" : "0.9999",
"remove_sample_usage" : false,
"export_images" : false,
"description" : "",
"label_stats" : [ {
  "name" : "Rabbits",
  "type" : 0,
  "property" : {
    "@modelarts:color" : "#3399ff"
  },
  "count" : 5,
  "sample_count" : 5
}, {
  "name" : "Bees",
  "type" : 0,
  "property" : {
    "@modelarts:color" : "#3399ff"
  },
  "count" : 5,
  "sample_count" : 5
} ],
"label_type" : "single",
"task_type" : 0,
"extract_serial_number" : false
}

```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.11 Deleting a Dataset Labeling Version

Function

This API is used to delete a dataset labeling version.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v2/{project_id}/datasets/{dataset_id}/versions/{version_id}

Table 16-86 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
version_id	Yes	String	Dataset version ID.

Request Parameters

None

Response Parameters

None

Example Requests

Deleting a Dataset Labeling Version

```
DELETE https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/versions/{version_id}
```

Example Responses

Status code: 204

No Content

```
{}
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden

Error Codes

See [Error Codes](#).

16.1.12 Obtaining a Sample List

Function

Obtain a sample list by page.

Debugging

You can debug this API in [API Explorer](#) which supports automatic authentication. API Explorer can automatically generate SDK code examples and provide the SDK code example debugging.

URI

GET /v2/{project_id}/datasets/{dataset_id}/data-annotations/samples

Table 16-87 URI parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 16-88 Query parameters

Parameter	Mandatory	Type	Description
email	No	String	Email address of a labeling team member
high_score	No	String	Upper limit of the confidence score. The default value is 1 .
label_name	No	String	Label name

Parameter	Mandatory	Type	Description
label_type	No	Integer	Labeling Type: Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 400: table dataset ● 600: video labeling ● 900: free format
limit	No	Integer	Maximum number of records returned on each page. The value ranges from 1 to 100 . The default value is 10 .
locale	No	String	Language Options: <ul style="list-style-type: none"> ● zh-cn: Chinese ● en-us: English (default value)
low_score	No	String	Lower limit of the confidence score. The default value is 0 .
offset	No	Integer	Start page for pagination display. The default value is 0 .
order	No	String	Sorting sequence of the query. Options: <ul style="list-style-type: none"> ● asc: ascending order ● desc: descending order (default value)
preview	No	Boolean	Whether preview is supported. Options: <ul style="list-style-type: none"> ● true: Preview is supported. ● false: Preview is not supported.

Parameter	Mandatory	Type	Description
process_parameter	No	String	Image resize configuration, which is the same as OBS settings. For details, see Resizing Images . For example, image/resize,m_lfit,h_200 indicates that the target image is resized proportionally and the height is set to 200 pixels.
sample_state	No	String	Sample status. Options: <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: unlabeled • __UNCHECK__: to be accepted • __ACCEPTED__: accepted • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: reviewed • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: sampling pending check • __WORKFORCE_SAMPLED_CHECKED__: sampling checked • __WORKFORCE_SAMPLED_ACCEPTED__: sampling accepted • __WORKFORCE_SAMPLED_REJECTED__: sampling rejected • __AUTO_ANNOTATION__: to be confirmed
sample_type	No	Integer	Sample file type. Options: <ul style="list-style-type: none"> • 0: image • 1: text • 2: audio • 4: table • 6: video • 9: custom format (default value)

Parameter	Mandatory	Type	Description
search_conditions	No	String	Multi-dimensional search condition after URL encoding. The relationship between multiple search conditions is AND.
version_id	No	String	Dataset version ID

Request Parameters

None

Response Parameters

Status code: 200

Table 16-89 Response body parameters

Parameter	Type	Description
sample_count	Integer	Number of samples
samples	Array of DescribeSampleResp objects	List of samples

Table 16-90 DescribeSampleResp

Parameter	Type	Description
check_accept	Boolean	Whether the acceptance is passed, which is used for team labeling. Options: <ul style="list-style-type: none"> true: The acceptance is passed. false: The acceptance is not passed.
check_comment	String	Acceptance comment, which is used for team labeling.
check_score	String	Acceptance score, which is used for team labeling.
deletion_reasons	Array of strings	Reason for deleting a sample, which is used for healthcare.
hard_details	Map<String, HardDetail >	Difficult problem details, including description, causes, and suggestions of difficult problems.

Parameter	Type	Description
labelers	Array of Worker objects	Labeling personnel list of sample allocation. The list records the team members receiving the samples, which is used for team labeling.
labels	Array of SampleLabel objects	List of sample labels
metadata	SampleMetadata object	Attribute key-value pair of the sample metadata
review_accept	Boolean	Whether to accept the review, which is used for team labeling. Options: <ul style="list-style-type: none"> • true: The review is accepted. • false: The review is rejected.
review_comment	String	Review comment, which is used for team labeling.
review_score	String	Review score, which is used for team labeling.
sample_data	Array of strings	List of sample data
sample_dir	String	Path for storing a sample
sample_id	String	Sample ID
sample_name	String	Sample name
sample_size	Long	Sample size or text length, in bytes

Parameter	Type	Description
sample_status	String	Sample status. Options: <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: unlabeled • __UNCHECK__: to be accepted • __ACCEPTED__: accepted • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: reviewed • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: sampling pending check • __WORKFORCE_SAMPLED_CHECKED__: sampling checked • __WORKFORCE_SAMPLED_ACCEPTED__: sampling accepted • __WORKFORCE_SAMPLED_REJECTED__: sampling rejected • __AUTO_ANNOTATION__: to be confirmed
sample_time	Long	Sample time, when OBS is last modified.
sample_type	Integer	Sample type. Options: <ul style="list-style-type: none"> • 0: image • 1: text • 2: audio • 4: table • 6: video • 9: free format
score	String	Comprehensive score, which is used for team labeling.
source	String	Source address of sample data
sub_sample_url	String	Subsample URL, which is used for healthcare.
worker_id	String	ID of a labeling team member, which is used for team labeling.

Table 16-91 HardDetail

Parameter	Type	Description
alo_name	String	Alias

Parameter	Type	Description
id	Integer	Reason ID
reason	String	Reason description
suggestion	String	Handling suggestion

Table 16-92 Worker

Parameter	Type	Description
create_time	Long	Worker creation time
description	String	Labeling team member description. The value contains 0 to 256 characters. Special characters (^!<>=&"') are not allowed.
email	String	Email address of a labeling team member
role	Integer	Role. Options: <ul style="list-style-type: none"> ● 0: marker ● 1: reviewer ● 2: team manager ● 3: dataset owner
status	Integer	Current login status of a labeled member. Options: <ul style="list-style-type: none"> ● 0: No invitation email is sent. ● 1: The invitation email is sent but the member has not logged in. ● 2: The member has logged in. ● 3: The member has been deleted.
update_time	Long	Worker update time
worker_id	String	ID of a labeling team member
workforce_id	String	ID of a labeling team

Table 16-93 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: <ul style="list-style-type: none"> ● human: manual labeling ● auto: auto labeling

Parameter	Type	Description
id	String	Label ID
name	String	Label name
property	SampleLabelProperty object	Attribute key-value pair of the sample label, such as the object shape and shape feature
score	Float	Confidence. The value ranges from 0 to 1 .
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-94 SampleLabelProperty

Parameter	Type	Description
@modelarts:content	String	Speech text content, which is a default attribute dedicated to the speech label (including the speech content and speech start and end points)
@modelarts:end_index	Integer	End position of the text, which is a default attribute dedicated to the named entity label. The end position does not include the character corresponding to the value of end_index . Examples: <ul style="list-style-type: none"> ● If the text is "Barack Hussein Obama II (born on August 4, 1961) is an attorney and politician.", the start_index and end_index of Barack Hussein Obama II are 0 and 23, respectively. ● If the text is "Hope is the thing with feathers", start_index and end_index of Hope are 0 and 4, respectively.

Parameter	Type	Description
@modelarts:end_time	String	Speech end time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:feature	Object	<p>Shape feature, which is a default attribute dedicated to the object detection label, with type of List. The upper left corner of an image is used as the coordinate origin [0, 0]. Each coordinate point is represented by [x, y]. <i>x</i> indicates the horizontal coordinate, and <i>y</i> indicates the vertical coordinate (both <i>x</i> and <i>y</i> are greater than or equal to 0). The format of each shape is as follows:</p> <ul style="list-style-type: none"> • bndbox: consists of two points, for example, [[0,10],[50,95]]. The upper left vertex of the rectangle is the first point, and the lower right vertex is the second point. That is, the <i>x</i>-coordinate of the first point must be less than the <i>x</i>-coordinate of the second point, and the <i>y</i>-coordinate of the first point must be less than the <i>y</i>-coordinate of the second point. • polygon: consists of multiple points that are connected in sequence to form a polygon, for example, [[0,100],[50,95],[10,60],[500,400]]. • circle: consists of the center and radius, for example, [[100,100],[50]]. • line: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • dashed: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • point: consists of one point, for example, [[0,100]]. • polyline: consists of multiple points, for example, [[0,100],[50,95],[10,60],[500,400]].
@modelarts:from	String	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Parameter	Type	Description
@modelarts:hard	String	Whether the sample is labeled as a hard example, which is a default attribute. Options: <ul style="list-style-type: none"> • 0/false: The label is not a hard example. • 1/true: The label is a hard example.
@modelarts:hard_coefficient	String	Coefficient of difficulty of each label level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	String	<p>Reasons why the sample is a hard example, which is a default attribute. Use a hyphen (-) to separate every two hard example reason IDs, for example, 3-20-21-19. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on flplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:shape	String	Object shape, which is a default attribute dedicated to the object detection label and is left empty by default. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dashed line • point: point • polyline: polyline
@modelarts:speech_source	String	Speech source, which is a default attribute dedicated to the speech start/end point label and can be set to a speaker or narrator
@modelarts:start_index	Integer	Start position of the text, which is a default attribute dedicated to the named entity label. The start value begins from 0, including the character corresponding to the value of start_index .
@modelarts:start_time	String	Speech start time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:triplet_label	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 16-95 SampleMetadata

Parameter	Type	Description
@modelarts:import_origin	Integer	Sample source, which is a default attribute.
@modelarts:hard	Double	Whether the sample is labeled as a hard sample, which is a default attribute. Options: <ul style="list-style-type: none"> • 0: The label is not a hard example. • 1: The label is a hard example.
@modelarts:hard_coefficient	Double	Coefficient of difficulty of each sample level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	<p>ID of a hard example reason, which is a default attribute. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on fliplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:size	Array of object	Image size (width, height, and depth of the image), which is a default attribute, with type of List<Integer> . In the list, the first number indicates the width (pixels), the second number indicates the height (pixels), and the third number indicates the depth (the depth can be left blank and the default value is 3). For example, [100,200,3] and [100,200] are both valid. Note: This parameter is mandatory only when the sample label list contains the object detection label.

Request Example

Run the following command to obtain a sample list by page:

```
GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/data-annotations/samples
```

Response Example

Status code: 200

OK

```
{
  "sample_count" : 2,
  "samples" : [ {
    "sample_id" : "012f99f3cf405860130b6ed2350c2228",
    "sample_type" : 0,
    "labels" : [ {
      "name" : "car",
      "type" : 0,
      "property" : { }
    } ],
    "source" : "https://test-obs.obs.xxx.com:443/image/aifood/%E5%86%B0%E6%BF%80%E5%87%8C/36502.jpg?AccessKeyId=RciyO7RHmhNTfOZVryUH&Expires=1606296688&x-image-process=image%2Fresize%2Cm_lfit%2Ch_200&Signature=icyvHhFew9vnmy3zh1uZMP15Mbg%3D",
    "metadata" : {
      "@modelarts:import_origin" : 0
    },
    "sample_time" : 1589190552106,
    "sample_status" : "MANUAL_ANNOTATION",
    "labelers" : [ {
      "email" : "xxx@xxx.com",
      "worker_id" : "5d8d4033b428fed5ac158942c33940a2",
      "role" : 0
    } ]
  }, {
    "sample_id" : "0192f3acfb000666033a0f85c21577c7",
    "sample_type" : 0,
    "labels" : [ {
      "name" : "car",
      "type" : 0,
      "property" : { }
    } ],
    "source" : "https://test-obs.obs.xxx.com:443/image/aifood/%E5%86%B0%E6%BF%80%E5%87%8C/36139.jpg?AccessKeyId=RciyO7RHmhNTfOZVryUH&Expires=1606296688&x-image-process=image%2Fresize%2Cm_lfit%2Ch_200&Signature=RRr9r2cghLCXk%2B0%2BFHtYJi8eZ4k%3D",
    "metadata" : {

```

```

"@modelarts:import_origin" : 0
},
"sample_time" : 1589190543327,
"sample_status" : "MANUAL_ANNOTATION",
"labelers" : [ {
  "email" : "xxx@xxx.com",
  "worker_id" : "a2abd3f27b4e92c593c15282f8b6bd29",
  "role" : 0
} ]
} ]
}

```

Status Code

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Code

For details, see [Error Codes](#).

16.1.13 Adding Samples in Batches

Function

This API is used to add samples in batches.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/data-annotations/samples

Table 16-96 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Request Parameters

Table 16-97 Request body parameters

Parameter	Mandatory	Type	Description
final_annotation	No	Boolean	Whether to directly import to the final result. Options: <ul style="list-style-type: none"> • true: Import labels to the labeled dataset. (Default value). • false: Import labels to the to-be-confirmed dataset. Currently, to-be-confirmed datasets only support categories of image classification and object detection.
label_format	No	LabelFormat object	Label format. This parameter is used only for text datasets.
samples	No	Array of Sample objects	Sample list.

Table 16-98 LabelFormat

Parameter	Mandatory	Type	Description
label_type	No	String	Label type of text classification. Options: <ul style="list-style-type: none"> • 0: The label is separated from the text, and they are distinguished by the fixed suffix _result. For example, the text file is abc.txt, and the label file is abc_result.txt. • 1: Default value. Labels and texts are stored in the same file and separated by separators. You can use text_sample_separator to specify the separator between the text and label and text_label_separator to specify the separator between labels.

Parameter	Mandatory	Type	Description
text_label_separator	No	String	Separator between labels. By default, a comma (,) is used as the separator. The separator needs to be escaped. The separator can contain only one character, such as a letter, a digit, or any of the following special characters: !@#%&*_=?/!';,;
text_sample_separator	No	String	Separator between the text and label. By default, the Tab key is used as the separator. The separator needs to be escaped. The separator can contain only one character, such as a letter, a digit, or any of the following special characters: !@#%&*_=?/!';,;

Table 16-99 Sample

Parameter	Mandatory	Type	Description
data	No	Object	Byte data of sample files. The type is java.nio.ByteBuffer . When this parameter is called, the string converted from the byte data is uploaded.
data_source	No	DataSource object	Data source.
encoding	No	String	Encoding type of sample files, which is used to upload .txt or .csv files. The value can be UTF-8 , GBK , or GB2312 . The default value is UTF-8 .
labels	No	Array of SampleLabel objects	Sample label list.
metadata	No	SampleMetadata object	Key-value pair of the sample metadata attribute.
name	No	String	Name of sample files. The value contains 0 to 1,024 characters and cannot contain special characters (!<>=&"').

Parameter	Mandatory	Type	Description
sample_type	No	Integer	Sample type. Options: <ul style="list-style-type: none"> • 0: image • 1: text • 2: speech • 4: table • 6: video • 9: custom format

Table 16-100 DataSource

Parameter	Mandatory	Type	Description
data_path	No	String	Data source path.
data_type	No	Integer	Data type. Options: <ul style="list-style-type: none"> • 0: OBS bucket (default value) • 1: GaussDB(DWS) • 2: DLI • 3: RDS • 4: MRS • 5: AI Gallery • 6: Inference service
schema_maps	No	Array of SchemaMap objects	Schema mapping information corresponding to the table data.
source_info	No	SourceInfo object	Information required for importing a table data source.
with_column_header	No	Boolean	Whether the first row in the file is a column name. This field is valid for the table dataset. Options: <ul style="list-style-type: none"> • true: The first row in the file is the column name. • false: The first row in the file is not the column name.

Table 16-101 SchemaMap

Parameter	Mandatory	Type	Description
dest_name	No	String	Name of the destination column.
src_name	No	String	Name of the source column.

Table 16-102 SourceInfo

Parameter	Mandatory	Type	Description
cluster_id	No	String	MRS cluster ID. You can log in to the MRS console to view the information.
cluster_mode	No	String	Running mode of an MRS cluster. Options: <ul style="list-style-type: none"> • 0: normal cluster • 1: security cluster
cluster_name	No	String	MRS cluster name You can log in to the MRS console to view the information.
database_name	No	String	Name of the database to which the table dataset is imported.
input	No	String	HDFS path of the table data set. For example, /datasets/demo.
ip	No	String	IP address of your GaussDB(DWS) cluster.
port	No	String	Port number of your GaussDB(DWS) cluster.
queue_name	No	String	DLI queue name of a table dataset.
subnet_id	No	String	Subnet ID of an MRS cluster.
table_name	No	String	Name of the table to which a table dataset is imported.
user_name	No	String	Username, which is mandatory for GaussDB(DWS) data.
user_password	No	String	User password, which is mandatory for GaussDB(DWS) data.

Parameter	Mandatory	Type	Description
vpc_id	No	String	ID of the VPC where an MRS cluster resides.

Table 16-103 SampleLabel

Parameter	Mandatory	Type	Description
annotated_by	No	String	Video labeling method, which is used to distinguish whether a video is labeled manually or automatically. Options: <ul style="list-style-type: none"> • human: manual labeling • auto: automatic labeling
id	No	String	Label ID.
name	No	String	Label name.
property	No	SampleLabel Property object	Attribute key-value pair of the sample label, such as the object shape and shape feature.
score	No	Float	Confidence. The value range is [0,1].
type	No	Integer	Label type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet relationship • 103: text triplet entity • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 600: video labeling

Table 16-104 SampleLabelProperty

Parameter	Mandatory	Type	Description
@modelarts:content	No	String	Speech text content, which is a default attribute dedicated to the speech label (including the speech content and speech start and end points).
@modelarts:end_index	No	Integer	End position of the text, which is a default attribute dedicated to the named entity label. The end position does not include the character corresponding to the value of end_index . Example: <ul style="list-style-type: none"> If the text is "Barack Hussein Obama II (born August 4, 1961) is an attorney and politician.", start_index and end_index of Barack Hussein Obama II are 0 and 23, respectively. If the text is "Hope is the thing with feathers", start_index and end_index of Hope are 0 and 4, respectively.
@modelarts:end_time	No	String	Speech end time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS . (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)

Parameter	Mandatory	Type	Description
@modelarts:feature	No	Object	<p>Shape feature, which is a default attribute dedicated to the object detection label, with type of List. The upper left corner of the image is used as the coordinate origin [0, 0]. Each coordinate point is represented by [x, y], where x indicates the horizontal coordinate and y indicates the vertical coordinate (both x and y are >=0). The format of each shape is as follows:</p> <ul style="list-style-type: none"> • bndbox consists of two points, for example, [[0,10],[50,95]]. The upper left vertex of the rectangle is the first point, and the lower right vertex is the second point. That is, the x-coordinate of the first point must be less than the x-coordinate of the second point, and the y-coordinate of the first point must be less than the y-coordinate of the second point. • polygon: consists of multiple points that are connected in sequence to form a polygon, for example, [[0,100],[50,95],[10,60],[500,400]]. • circle: consists of the center and radius, for example, [[100,100],[50]]. • line: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • dashed: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • point: consists of one point, for example, [[0,100]]. • polyline: consists of multiple points, for example, [[0,100],[50,95],[10,60],[500,400]].
@modelarts:from	No	String	ID of the head entity in the triplet relationship label, which is a default attribute dedicated to the triplet relationship label.
@modelarts:hard	No	String	Sample labeled as a hard sample or not, which is a default attribute. Options: <ul style="list-style-type: none"> • 0/false: not a hard example • 1/true: hard example
@modelarts:hard_coefficient	No	String	Coefficient of difficulty of each label level, which is a default attribute. The value range is [0,1] .

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	String	<p>Reasons that the sample is a hard sample, which is a default attribute. Use a hyphen (-) to separate every two hard sample reason IDs, for example, 3-20-21-19.</p> <p>Options:</p> <ul style="list-style-type: none"> ● 0: No target objects are identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data enhancement result based on

Parameter	Mandatory	Type	Description
			<p>GaussianBlur is inconsistent with the prediction result of the original image.</p> <ul style="list-style-type: none"> ● 20: The data enhancement result based on fliplr is inconsistent with the prediction result of the original image. ● 21: The data enhancement result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data enhancement result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data enhancement result based on scale is inconsistent with the prediction result of the original image. ● 24: The data enhancement result based on translate is inconsistent with the prediction result of the original image. ● 25: The data enhancement result based on shear is inconsistent with the prediction result of the original image. ● 26: The data enhancement result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data enhancement result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data enhancement result based on add is inconsistent with the prediction result of the original image.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● 29: The data enhancement result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.
@modelarts:shape	No	String	<p>Object shape, which is a default attribute dedicated to the object detection label and is left empty by default.</p> <p>Options:</p> <ul style="list-style-type: none"> ● bndbox: rectangle ● polygon: polygon ● circle: circle ● line: straight line ● dashed: dotted line ● point: point ● polyline: polyline
@modelarts:speech_source	No	String	Speech source, which is a default attribute dedicated to the speech start/end point label and can be set to a speaker or narrator.
@modelarts:start_index	No	Integer	Start position of the text, which is a default attribute dedicated to the named entity label. The start value begins from 0, including the character corresponding to the value of start_index .
@modelarts:start_time	No	String	Speech start time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS . (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:tail_id	No	String	ID of the tail entity in the triplet relationship label, which is a default attribute dedicated to the triplet relationship label.

Table 16-105 SampleMetadata

Parameter	Mandatory	Type	Description
@modelarts:import_origin	No	Integer	Sample source, which is a built-in attribute.
@modelarts:hard	No	Double	Whether the sample is labeled as a hard sample, which is a default attribute. Options: <ul style="list-style-type: none"> • 0: non-hard sample • 1: hard sample
@modelarts:hard_coefficient	No	Double	Coefficient of difficulty of each sample level, which is a default attribute. The value range is [0,1] .

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	Array of integers	<p>ID of a hard sample reason, which is a default attribute. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data enhancement result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data enhancement result based on fliplr is

Parameter	Mandatory	Type	Description
			<p>inconsistent with the prediction result of the original image.</p> <ul style="list-style-type: none"> ● 21: The data enhancement result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data enhancement result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data enhancement result based on scale is inconsistent with the prediction result of the original image. ● 24: The data enhancement result based on translate is inconsistent with the prediction result of the original image. ● 25: The data enhancement result based on shear is inconsistent with the prediction result of the original image. ● 26: The data enhancement result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data enhancement result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data enhancement result based on add is inconsistent with the prediction result of the original image. ● 29: The data enhancement result based on invert is inconsistent with the prediction result of the original image.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> 30: The data is predicted to be abnormal.
@modelarts:size	No	Array of objects	Image size (width, height, and depth of the image), which is a default attribute, with type of List<Integer> . In the list, the first number indicates the width (pixels), the second number indicates the height (pixels), and the third number indicates the depth (the depth can be left blank and the default value is 3). For example, [100,200,3] and [100,200] are both valid. Note: This parameter is mandatory only when the sample label list contains the object detection label.

Response Parameters

Status code: 200

Table 16-106 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
results	Array of UploadSampleResp objects	Response list for adding samples in batches.
success	Boolean	Whether the operation is successful. Options: <ul style="list-style-type: none"> true: successful false: failed

Table 16-107 UploadSampleResp

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Error Codes

See [Error Codes](#).

16.1.14 Deleting Samples in Batches

Function

This API is used to delete samples in batches.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/data-annotations/samples/delete

Table 16-108 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Request Parameters

Table 16-109 Request body parameters

Parameter	Mandatory	Type	Description
delete_source	No	Boolean	Whether to delete the source file. This field is valid for non-text datasets. (A text dataset is the entire text file. Therefore, deleting a piece of data from the text file does not affect the source text.) Options: <ul style="list-style-type: none"> • false: Do not delete the source file. (Default value) • true: Delete the source file. (Note: This operation may affect the dataset versions or other datasets that have used these files. As a result, the page display, training, or inference is abnormal.)
samples	No	Array of strings	Sample ID list.

Response Parameters

Status code: 200

Table 16-110 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
results	Array of BatchResponse objects	Response list for deleting a sample in batches.
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> • true: The operation is successful. • false: The operation is failed.

Table 16-111 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> • true: The operation is successful. • false: The operation is failed.

Example Requests

Deleting Samples in Batches

```
{
  "samples" : [ "9cb9bc9b34bf53b6ec9a84998b1711bf", "9ea63ef78d8c9037c9bcb12b477821bf" ]
}
```

Example Responses

Status code: 200

OK

```
{
  "success" : true
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.15 Obtaining Details About a Sample

Function

Obtain details about a sample.

Debugging

You can debug this API in [API Explorer](#) which supports automatic authentication. API Explorer can automatically generate SDK code examples and provide the SDK code example debugging.

URI

GET /v2/{project_id}/datasets/{dataset_id}/data-annotations/samples/{sample_id}

Table 16-112 URI parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
sample_id	Yes	String	Sample ID

Table 16-113 Query parameters

Parameter	Mandatory	Type	Description
locale	No	String	Language Options: <ul style="list-style-type: none"> • zh-cn: Chinese • en-us: English (default value)

Parameter	Mandatory	Type	Description
sample_state	No	String	<p>Sample status. Options:</p> <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: unlabeled • __UNCHECK__: to be accepted • __ACCEPTED__: accepted • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: reviewed • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: sampling pending check • __WORKFORCE_SAMPLED_CHECKED__: sampling checked • __WORKFORCE_SAMPLED_ACCEPTED__: sampling accepted • __WORKFORCE_SAMPLED_REJECTED__: sampling rejected • __AUTO_ANNOTATION__: to be confirmed
worker_id	No	String	ID of a labeling team member

Request Parameters

None

Response Parameters

Status code: 200

Table 16-114 Response body parameters

Parameter	Type	Description
check_accept	Boolean	Whether the acceptance is passed, which is used for team labeling. Options: <ul style="list-style-type: none"> ● true: The acceptance is passed. ● false: The acceptance is not passed.
check_comment	String	Acceptance comment, which is used for team labeling.
check_score	String	Acceptance score, which is used for team labeling.
deletion_reasons	Array of strings	Reason for deleting a sample, which is used for healthcare.
hard_details	Map<String,HardDetail>	Difficult problem details, including description, causes, and suggestions of difficult problems.
labelers	Array of Worker objects	Labeling personnel list of sample allocation. The list records the team members receiving the samples, which is used for team labeling.
labels	Array of SampleLabel objects	List of sample labels
metadata	SampleMetadata object	Attribute key-value pair of the sample metadata
review_accept	Boolean	Whether to accept the review, which is used for team labeling. Options: <ul style="list-style-type: none"> ● true: The review is accepted. ● false: The review is rejected.
review_comment	String	Review comment, which is used for team labeling.
review_score	String	Review score, which is used for team labeling.
sample_data	Array of strings	List of sample data
sample_dir	String	Path for storing a sample
sample_id	String	Sample ID
sample_name	String	Sample name
sample_size	Long	Sample size or text length, in bytes

Parameter	Type	Description
sample_status	String	Sample status. Options: <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: unlabeled • __UNCHECK__: to be accepted • __ACCEPTED__: accepted • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: reviewed • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: sampling pending check • __WORKFORCE_SAMPLED_CHECKED__: sampling checked • __WORKFORCE_SAMPLED_ACCEPTED__: sampling accepted • __WORKFORCE_SAMPLED_REJECTED__: sampling rejected • __AUTO_ANNOTATION__: to be confirmed
sample_time	Long	Sample time, when OBS is last modified.
sample_type	Integer	Sample type. Options: <ul style="list-style-type: none"> • 0: image • 1: text • 2: audio • 4: table • 6: video • 9: free format
score	String	Comprehensive score, which is used for team labeling.
source	String	Source address of sample data
sub_sample_url	String	Subsample URL, which is used for healthcare.
worker_id	String	ID of a labeling team member, which is used for team labeling.

Table 16-115 HardDetail

Parameter	Type	Description
alo_name	String	Alias

Parameter	Type	Description
id	Integer	Reason ID
reason	String	Reason description
suggestion	String	Handling suggestion

Table 16-116 Worker

Parameter	Type	Description
create_time	Long	Worker creation time
description	String	Labeling team member description. The value contains 0 to 256 characters. Special characters (^!<>=&"') are not allowed.
email	String	Email address of a labeling team member
role	Integer	Role. Options: <ul style="list-style-type: none"> ● 0: marker ● 1: reviewer ● 2: team manager ● 3: dataset owner
status	Integer	Current login status of a labeled member. Options: <ul style="list-style-type: none"> ● 0: No invitation email is sent. ● 1: The invitation email is sent but the member has not logged in. ● 2: The member has logged in. ● 3: The member has been deleted.
update_time	Long	Worker update time
worker_id	String	ID of a labeling team member
workforce_id	String	ID of a labeling team

Table 16-117 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: <ul style="list-style-type: none"> ● human: manual labeling ● auto: auto labeling

Parameter	Type	Description
id	String	Label ID
name	String	Label name
property	SampleLabelProperty object	Attribute key-value pair of the sample label, such as the object shape and shape feature
score	Float	Confidence. The value ranges from 0 to 1 .
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-118 SampleLabelProperty

Parameter	Type	Description
@modelarts:content	String	Speech text content, which is a default attribute dedicated to the speech label (including the speech content and speech start and end points)
@modelarts:end_index	Integer	End position of the text, which is a default attribute dedicated to the named entity label. The end position does not include the character corresponding to the value of end_index . Examples: <ul style="list-style-type: none"> ● If the text is "Barack Hussein Obama II (born on August 4, 1961) is an attorney and politician.", the start_index and end_index of Barack Hussein Obama II are 0 and 23, respectively. ● If the text is "Hope is the thing with feathers", start_index and end_index of Hope are 0 and 4, respectively.

Parameter	Type	Description
@modelarts:end_time	String	Speech end time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:feature	Object	<p>Shape feature, which is a default attribute dedicated to the object detection label, with type of List. The upper left corner of an image is used as the coordinate origin [0, 0]. Each coordinate point is represented by [x, y]. <i>x</i> indicates the horizontal coordinate, and <i>y</i> indicates the vertical coordinate (both <i>x</i> and <i>y</i> are greater than or equal to 0). The format of each shape is as follows:</p> <ul style="list-style-type: none"> • bndbox: consists of two points, for example, [[0,10],[50,95]]. The upper left vertex of the rectangle is the first point, and the lower right vertex is the second point. That is, the <i>x</i>-coordinate of the first point must be less than the <i>x</i>-coordinate of the second point, and the <i>y</i>-coordinate of the first point must be less than the <i>y</i>-coordinate of the second point. • polygon: consists of multiple points that are connected in sequence to form a polygon, for example, [[0,100],[50,95],[10,60],[500,400]]. • circle: consists of the center and radius, for example, [[100,100],[50]]. • line: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • dashed: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • point: consists of one point, for example, [[0,100]]. • polyline: consists of multiple points, for example, [[0,100],[50,95],[10,60],[500,400]].
@modelarts:from	String	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Parameter	Type	Description
@modelarts:hard	String	Whether the sample is labeled as a hard example, which is a default attribute. Options: <ul style="list-style-type: none"> • 0/false: The label is not a hard example. • 1/true: The label is a hard example.
@modelarts:hard_coefficient	String	Coefficient of difficulty of each label level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	String	<p>Reasons why the sample is a hard example, which is a default attribute. Use a hyphen (-) to separate every two hard example reason IDs, for example, 3-20-21-19. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on flplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:shape	String	Object shape, which is a default attribute dedicated to the object detection label and is left empty by default. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dashed line • point: point • polyline: polyline
@modelarts:speech_source	String	Speech source, which is a default attribute dedicated to the speech start/end point label and can be set to a speaker or narrator
@modelarts:start_index	Integer	Start position of the text, which is a default attribute dedicated to the named entity label. The start value begins from 0, including the character corresponding to the value of start_index .
@modelarts:start_time	String	Speech start time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:triplet_label	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 16-119 SampleMetadata

Parameter	Type	Description
@modelarts:import_origin	Integer	Sample source, which is a default attribute.
@modelarts:hard	Double	Whether the sample is labeled as a hard example, which is a default attribute. Options: <ul style="list-style-type: none"> • 0: The label is not a hard example. • 1: The label is a hard example.
@modelarts:hard_coefficient	Double	Coefficient of difficulty of each sample level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	<p>ID of a hard example reason, which is a default attribute. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on fliplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:size	Array of objects	Image size (width, height, and depth of the image), which is a default attribute, with type of List<Integer> . In the list, the first number indicates the width (pixels), the second number indicates the height (pixels), and the third number indicates the depth (the depth can be left blank and the default value is 3). For example, [100,200,3] and [100,200] are both valid. Note: This parameter is mandatory only when the sample label list contains the object detection label.

Request Example

Run the following command to obtain details about a sample:

```
GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/data-annotations/samples/{sample_id}
```

Response Example

Status code: 200

OK

```
{
  "sample_id" : "012f99f3cf405860130b6ed2350c2228",
  "sample_type" : 0,
  "labels" : [ {
    "name" : "car",
    "type" : 0,
    "property" : { }
  } ],
  "source" : "https://test-obs.obs.xxx.com:443/image/aifood/%E5%86%B0%E6%BF%80%E5%87%8C/36502.jpg?AccessKeyId=RciyO7RHmhNTfOZVryUH&Expires=1606297079&Signature=Ju4FYpEu973ii%2FAdUVLTfpLCTbg%3D",
  "metadata" : {
    "@modelarts:import_origin" : 0
  },
  "sample_time" : 1589190552106,
  "sample_status" : "MANUAL_ANNOTATION",
  "labelers" : [ {
    "email" : "xxx@xxx.com",
    "worker_id" : "5d8d4033b428fed5ac158942c33940a2",
    "role" : 0
  } ]
}
```

Status Code

Status Code	Description
200	OK
401	Unauthorized

Status Code	Description
403	Forbidden
404	Not Found

Error Code

For details, see [Error Codes](#).

16.1.16 Obtaining Sample Search Condition

Function

This API is used to obtain sample search condition.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}/data-annotations/search-condition

Table 16-120 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

Status code: 200

Table 16-121 Response body parameters

Parameter	Type	Description
labelers	Array of strings	List of labeling team members.
labels	Array of Label objects	Label list.
metadata	Map<String,Array<String>>	Attribute key-value pair of a dataset.

Table 16-122 Label

Parameter	Type	Description
attributes	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
name	String	Label name.
property	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-123 LabelAttribute

Parameter	Type	Description
default_value	String	Default value of a label attribute.
id	String	Label attribute ID. You can query the tag by invoking the tag list.

Parameter	Type	Description
name	String	Label attribute name. The value contains a maximum of 64 characters and cannot contain the character. <>=&''.
type	String	Label attribute type. Options: <ul style="list-style-type: none"> ● text: text ● select: single-choice drop-down list
values	Array of LabelAttributeValue objects	List of label attribute values.

Table 16-124 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

Table 16-125 LabelProperty

Parameter	Type	Description
@modelarts:color	String	Default attribute: Label color, which is a hexadecimal code of the color. By default, this parameter is left blank. Example: #FFFFFF0 .
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> ● bndbox: rectangle ● polygon: polygon ● circle: circle ● line: straight line ● dashed: dotted line ● point: point ● polyline: polyline
@modelarts:from_type	String	Default attribute: Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Parameter	Type	Description
@modelarts:rename_to	String	Default attribute: The new name of the label.
@modelarts:shortcut	String	Default attribute: Label shortcut key. By default, this parameter is left blank. For example: D .
@modelarts:tail_type	String	Default attribute: Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Example Requests

Obtaining Sample Search Condition

```
GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/data-annotations/search-condition
```

Example Responses

Status code: 200

OK

```
{
  "labels": [ {
    "name": "Rabbits",
    "type": 0,
    "property": {
      "@modelarts:color": "#3399ff"
    }
  }, {
    "name": "Bees",
    "type": 0,
    "property": {
      "@modelarts:color": "#3399ff"
    }
  } ],
  "metadata": { },
  "labelers": [ "human/test_123/test_123", "human/xxx@xxx.com", "human/xxx@xxx.com" ]
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.17 Obtaining a Sample List of a Team Labeling Task by Page

Function

Obtain a sample list of a team labeling task by page.

Debugging

You can debug this API in [API Explorer](#) which supports automatic authentication. API Explorer can automatically generate SDK code examples and provide the SDK code example debugging.

URI

GET /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/data-annotations/samples

Table 16-126 URI parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
workforce_task_id	Yes	String	ID of a team labeling task.

Table 16-127 Query parameters

Parameter	Mandatory	Type	Description
label_name	No	String	Label name

Parameter	Mandatory	Type	Description
label_type	No	Integer	<p>Labeling Type: Options:</p> <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 400: table dataset • 600: video labeling • 900: free format
limit	No	Integer	Maximum number of records returned on each page. The value ranges from 1 to 100 . The default value is 10 .
locale	No	String	<p>Language Options:</p> <ul style="list-style-type: none"> • zh-cn: Chinese • en-us: English (default value)
offset	No	Integer	Start page for pagination display. The default value is 0 .
process_parameter	No	String	Image resize configuration, which is the same as OBS settings. For details, see Resizing Images . For example, image/resize,m_lfit,h_200 indicates that the target image is resized proportionally and the height is set to 200 pixels.

Parameter	Mandatory	Type	Description
sample_state	No	String	<p>Sample status. Options:</p> <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: unlabeled • __UNCHECK__: to be accepted • __ACCEPTED__: accepted • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: reviewed • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: sampling pending check • __WORKFORCE_SAMPLED_CHECKED__: sampling checked • __WORKFORCE_SAMPLED_ACCEPTED__: sampling accepted • __WORKFORCE_SAMPLED_REJECTED__: sampling rejected • __AUTO_ANNOTATION__: to be confirmed
search_conditions	No	String	<p>Multi-dimensional search criteria after URL encoding. The relationship between multiple search conditions is AND.</p>

Request Parameters

None

Response Parameters

Status code: 200

Table 16-128 Response body parameters

Parameter	Type	Description
sample_count	Integer	Number of samples
samples	Array of DescribeSampleResp objects	List of samples

Table 16-129 DescribeSampleResp

Parameter	Type	Description
check_accept	Boolean	Whether the acceptance is passed, which is used for team labeling. Options: <ul style="list-style-type: none"> ● true: The acceptance is passed. ● false: The acceptance is not passed.
check_comment	String	Acceptance comment, which is used for team labeling.
check_score	String	Acceptance score, which is used for team labeling.
deletion_reasons	Array of strings	Reason for deleting a sample, which is used for healthcare.
hard_details	Map<String, HardDetail >	Difficult problem details, including description, causes, and suggestions of difficult problems.
labelers	Array of Worker objects	Labeling personnel list of sample allocation. The list records the team members receiving the samples, which is used for team labeling.
labels	Array of SampleLabel objects	List of sample labels
metadata	SampleMetadata object	Attribute key-value pair of the sample metadata
review_accept	Boolean	Whether to accept the review, which is used for team labeling. Options: <ul style="list-style-type: none"> ● true: The review is accepted. ● false: The review is rejected.
review_comment	String	Review comment, which is used for team labeling.
review_score	String	Review score, which is used for team labeling.

Parameter	Type	Description
sample_data	Array of strings	List of sample data
sample_dir	String	Path for storing a sample
sample_id	String	Sample ID
sample_name	String	Sample name
sample_size	Long	Sample size or text length, in bytes
sample_status	String	Sample status. Options: <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: unlabeled • __UNCHECK__: to be accepted • __ACCEPTED__: accepted • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: reviewed • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: sampling pending check • __WORKFORCE_SAMPLED_CHECKED__: sampling checked • __WORKFORCE_SAMPLED_ACCEPTED__: sampling accepted • __WORKFORCE_SAMPLED_REJECTED__: sampling rejected • __AUTO_ANNOTATION__: to be confirmed
sample_time	Long	Sample time, when OBS is last modified.
sample_type	Integer	Sample type. Options: <ul style="list-style-type: none"> • 0: image • 1: text • 2: audio • 4: table • 6: video • 9: free format
score	String	Comprehensive score, which is used for team labeling.
source	String	Source address of sample data
sub_sample_url	String	Subsample URL, which is used for healthcare.

Parameter	Type	Description
worker_id	String	ID of a labeling team member, which is used for team labeling.

Table 16-130 HardDetail

Parameter	Type	Description
alo_name	String	Alias
id	Integer	Reason ID
reason	String	Reason description
suggestion	String	Handling suggestion

Table 16-131 Worker

Parameter	Type	Description
create_time	Long	Worker creation time
description	String	Labeling team member description. The value contains 0 to 256 characters. Special characters (^!<>=&"') are not allowed.
email	String	Email address of a labeling team member
role	Integer	Role. Options: <ul style="list-style-type: none"> ● 0: marker ● 1: reviewer ● 2: team manager ● 3: dataset owner
status	Integer	Current login status of a labeled member. Options: <ul style="list-style-type: none"> ● 0: No invitation email is sent. ● 1: The invitation email is sent but the member has not logged in. ● 2: The member has logged in. ● 3: The member has been deleted.
update_time	Long	Worker update time
worker_id	String	ID of a labeling team member
workforce_id	String	ID of a labeling team

Table 16-132 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: <ul style="list-style-type: none"> ● human: manual labeling ● auto: auto labeling
id	String	Label ID
name	String	Label name
property	SampleLabelProperty object	Attribute key-value pair of the sample label, such as the object shape and shape feature
score	Float	Confidence. The value ranges from 0 to 1 .
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-133 SampleLabelProperty

Parameter	Type	Description
@modelarts:content	String	Speech text content, which is a default attribute dedicated to the speech label (including the speech content and speech start and end points)

Parameter	Type	Description
@modelarts:end_index	Integer	<p>End position of the text, which is a default attribute dedicated to the named entity label. The end position does not include the character corresponding to the value of end_index. Examples:</p> <ul style="list-style-type: none"> • If the text is "Barack Hussein Obama II (born on August 4, 1961) is an attorney and politician.", the start_index and end_index of Barack Hussein Obama II are 0 and 23, respectively. • If the text is "Hope is the thing with feathers", start_index and end_index of Hope are 0 and 4, respectively.
@modelarts:end_time	String	<p>Speech end time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)</p>

Parameter	Type	Description
@modelarts:feature	Object	<p>Shape feature, which is a default attribute dedicated to the object detection label, with type of List. The upper left corner of an image is used as the coordinate origin [0, 0]. Each coordinate point is represented by [x, y]. <i>x</i> indicates the horizontal coordinate, and <i>y</i> indicates the vertical coordinate (both <i>x</i> and <i>y</i> are greater than or equal to 0). The format of each shape is as follows:</p> <ul style="list-style-type: none"> • bndbox: consists of two points, for example, [[0,10],[50,95]]. The upper left vertex of the rectangle is the first point, and the lower right vertex is the second point. That is, the <i>x</i>-coordinate of the first point must be less than the <i>x</i>-coordinate of the second point, and the <i>y</i>-coordinate of the first point must be less than the <i>y</i>-coordinate of the second point. • polygon: consists of multiple points that are connected in sequence to form a polygon, for example, [[0,100],[50,95],[10,60],[500,400]]. • circle: consists of the center and radius, for example, [[100,100],[50]]. • line: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • dashed: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • point: consists of one point, for example, [[0,100]]. • polyline: consists of multiple points, for example, [[0,100],[50,95],[10,60],[500,400]].
@modelarts:from	String	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label
@modelarts:hard	String	<p>Whether the sample is labeled as a hard example, which is a default attribute. Options:</p> <ul style="list-style-type: none"> • 0/false: The label is not a hard example. • 1/true: The label is a hard example.
@modelarts:hard_coefficient	String	Coefficient of difficulty of each label level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	String	<p>Reasons why the sample is a hard example, which is a default attribute. Use a hyphen (-) to separate every two hard example reason IDs, for example, 3-20-21-19. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on flplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:shape	String	Object shape, which is a default attribute dedicated to the object detection label and is left empty by default. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dashed line • point: point • polyline: polyline
@modelarts:source	String	Speech source, which is a default attribute dedicated to the speech start/end point label and can be set to a speaker or narrator
@modelarts:start_index	Integer	Start position of the text, which is a default attribute dedicated to the named entity label. The start value begins from 0, including the character corresponding to the value of start_index .
@modelarts:start_time	String	Speech start time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:triplet_id	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 16-134 SampleMetadata

Parameter	Type	Description
@modelarts:import_origin	Integer	Sample source, which is a default attribute.
@modelarts:hard	Double	Whether the sample is labeled as a hard example, which is a default attribute. Options: <ul style="list-style-type: none"> • 0: The label is not a hard example. • 1: The label is a hard example.
@modelarts:hard_coefficient	Double	Coefficient of difficulty of each sample level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	<p>ID of a hard example reason, which is a default attribute. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on fliplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:size	Array of objects	Image size (width, height, and depth of the image), which is a default attribute, with type of List<Integer> . In the list, the first number indicates the width (pixels), the second number indicates the height (pixels), and the third number indicates the depth (the depth can be left blank and the default value is 3). For example, [100,200,3] and [100,200] are both valid. Note: This parameter is mandatory only when the sample label list contains the object detection label.

Request Example

Querying the Sample List of a Team Labeling Task by Page

```
GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/data-annotations/samples
```

Response Example

Status code: 200

OK

```
{
  "sample_count" : 2,
  "samples" : [ {
    "sample_id" : "26c6dd793d80d3274eb89349ec76d678",
    "sample_type" : 0,
    "labels" : [ ],
    "source" : "https://test-obs.obs.xxx.com:443/detect/data/dataset-car-and-person/IMG_kitti_0000_000016.png?AccessKeyId=P19W9X830R1Z39P5X5M5&Expires=1606300137&x-obs-security-token=gQpjb1ub3J0aC03jKj8N6gtS4VsdTTW3QFoHMtpMoFLtCa6W_J4DxT0nYIfx...",
    "metadata" : {
      "@modelarts:import_origin" : 0,
      "@modelarts:size" : [ 1242, 375, 3 ]
    },
    "sample_time" : 1598263639997,
    "sample_status" : "UN_ANNOTATION",
    "worker_id" : "8c15ad080d3eabad14037b4eb00d6a6f",
    "labelers" : [ {
      "email" : "xxx@xxx.com",
      "worker_id" : "afdda13895bc66322ffb36ae833bcf0",
      "role" : 0
    } ]
  }, {
    "sample_id" : "2971815bbb11a462161b48ddd19344f",
    "sample_type" : 0,
    "labels" : [ ],
    "source" : "https://test-obs.obs.xxx.com:443/detect/data/dataset-car-and-person/IMG_kitti_0000_000011.png?AccessKeyId=P19W9X830R1Z39P5X5M5&Expires=1606300137&x-obs-security-token=gQpjb1ub3J0aC03jKj8N6gtS4VsdTTW3QFoHMtpMoFLtCa6W_J4DxT0nYIfx...",
    "metadata" : {
      "@modelarts:import_origin" : 0,
      "@modelarts:size" : [ 1242, 375, 3 ]
    },
    "sample_time" : 1598263639997,
    "sample_status" : "UN_ANNOTATION",
```

```

"worker_id" : "8c15ad080d3eabad14037b4eb00d6a6f",
"labelers" : [ {
  "email" : "xxx@xxx.com",
  "worker_id" : "305595e1901a526017d2e11f3ab0ffe1",
  "role" : 0
} ]
} ]
}

```

Status Code

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Code

For details, see [Error Codes](#).

16.1.18 Obtaining Details About a Team Labeling Sample

Function

Obtain samples labeled by a team. The API can be called only after an acceptance task is initiated.

Debugging

You can debug this API in [API Explorer](#) which supports automatic authentication. API Explorer can automatically generate SDK code examples and provide the SDK code example debugging.

URI

GET /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/data-annotations/samples/{sample_id}

Table 16-135 URI parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Parameter	Mandatory	Type	Description
sample_id	Yes	String	Sample ID
workforce_task_id	Yes	String	Labeling task ID

Table 16-136 Query parameters

Parameter	Mandatory	Type	Description
locale	No	String	Language Options: <ul style="list-style-type: none"> • zh-cn: Chinese • en-us: English (default value)
sample_state	No	String	Sample status. Options: <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: unlabeled • __UNCHECK__: to be accepted • __ACCEPTED__: accepted • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: reviewed • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: sampling pending check • __WORKFORCE_SAMPLED_CHECKED__: sampling checked • __WORKFORCE_SAMPLED_ACCEPTED__: sampling accepted • __WORKFORCE_SAMPLED_REJECTED__: sampling rejected • __AUTO_ANNOTATION__: to be confirmed
worker_id	No	String	ID of a labeling team member

Request Parameters

None

Response Parameters

Status code: 200

Table 16-137 Response body parameters

Parameter	Type	Description
check_accept	Boolean	Whether the acceptance is passed, which is used for team labeling. Options: <ul style="list-style-type: none"> • true: The acceptance is passed. • false: The acceptance is not passed.
check_comment	String	Acceptance comment, which is used for team labeling.
check_score	String	Acceptance score, which is used for team labeling.
deletion_reasons	Array of strings	Reason for deleting a sample, which is used for healthcare.
hard_details	Map<String,HardDetail>	Difficult problem details, including description, causes, and suggestions of difficult problems.
labelers	Array of Worker objects	Labeling personnel list of sample allocation. The list records the team members receiving the samples, which is used for team labeling.
labels	Array of SampleLabel objects	List of sample labels
metadata	SampleMetadata object	Attribute key-value pair of the sample metadata
review_accept	Boolean	Whether to accept the review, which is used for team labeling. Options: <ul style="list-style-type: none"> • true: The review is accepted. • false: The review is rejected.
review_comment	String	Review comment, which is used for team labeling.
review_score	String	Review score, which is used for team labeling.
sample_data	Array of strings	List of sample data
sample_dir	String	Path for storing a sample
sample_id	String	Sample ID

Parameter	Type	Description
sample_name	String	Sample name
sample_size	Long	Sample size or text length, in bytes
sample_status	String	Sample status. Options: <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: unlabeled • __UNCHECK__: to be accepted • __ACCEPTED__: accepted • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: reviewed • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: sampling pending check • __WORKFORCE_SAMPLED_CHECKED__: sampling checked • __WORKFORCE_SAMPLED_ACCEPTED__: sampling accepted • __WORKFORCE_SAMPLED_REJECTED__: sampling rejected • __AUTO_ANNOTATION__: to be confirmed
sample_time	Long	Sample time, when OBS is last modified.
sample_type	Integer	Sample type. Options: <ul style="list-style-type: none"> • 0: image • 1: text • 2: audio • 4: table • 6: video • 9: free format
score	String	Comprehensive score, which is used for team labeling.
source	String	Source address of sample data
sub_sample_url	String	Subsample URL, which is used for healthcare.
worker_id	String	ID of a labeling team member, which is used for team labeling.

Table 16-138 HardDetail

Parameter	Type	Description
alo_name	String	Alias
id	Integer	Reason ID
reason	String	Reason description
suggestion	String	Handling suggestion

Table 16-139 Worker

Parameter	Type	Description
create_time	Long	Worker creation time
description	String	Labeling team member description. The value contains 0 to 256 characters. Special characters (^!<>=&"') are not allowed.
email	String	Email address of a labeling team member
role	Integer	Role. Options: <ul style="list-style-type: none"> ● 0: marker ● 1: reviewer ● 2: team manager ● 3: dataset owner
status	Integer	Current login status of a labeled member. Options: <ul style="list-style-type: none"> ● 0: No invitation email is sent. ● 1: The invitation email is sent but the member has not logged in. ● 2: The member has logged in. ● 3: The member has been deleted.
update_time	Long	Worker update time
worker_id	String	ID of a labeling team member
workforce_id	String	ID of a labeling team

Table 16-140 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: <ul style="list-style-type: none"> ● human: manual labeling ● auto: auto labeling
id	String	Label ID
name	String	Label name
property	SampleLabelProperty object	Attribute key-value pair of the sample label, such as the object shape and shape feature
score	Float	Confidence. The value ranges from 0 to 1 .
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-141 SampleLabelProperty

Parameter	Type	Description
@modelarts:content	String	Speech text content, which is a default attribute dedicated to the speech label (including the speech content and speech start and end points)

Parameter	Type	Description
@modelarts:end_index	Integer	<p>End position of the text, which is a default attribute dedicated to the named entity label. The end position does not include the character corresponding to the value of end_index. Examples:</p> <ul style="list-style-type: none"> • If the text is "Barack Hussein Obama II (born on August 4, 1961) is an attorney and politician.", the start_index and end_index of Barack Hussein Obama II are 0 and 23, respectively. • If the text is "Hope is the thing with feathers", start_index and end_index of Hope are 0 and 4, respectively.
@modelarts:end_time	String	<p>Speech end time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)</p>

Parameter	Type	Description
@modelarts:feature	Object	<p>Shape feature, which is a default attribute dedicated to the object detection label, with type of List. The upper left corner of an image is used as the coordinate origin [0, 0]. Each coordinate point is represented by [x, y]. <i>x</i> indicates the horizontal coordinate, and <i>y</i> indicates the vertical coordinate (both <i>x</i> and <i>y</i> are greater than or equal to 0). The format of each shape is as follows:</p> <ul style="list-style-type: none"> • bndbox: consists of two points, for example, [[0,10],[50,95]]. The upper left vertex of the rectangle is the first point, and the lower right vertex is the second point. That is, the <i>x</i>-coordinate of the first point must be less than the <i>x</i>-coordinate of the second point, and the <i>y</i>-coordinate of the first point must be less than the <i>y</i>-coordinate of the second point. • polygon: consists of multiple points that are connected in sequence to form a polygon, for example, [[0,100],[50,95],[10,60],[500,400]]. • circle: consists of the center and radius, for example, [[100,100],[50]]. • line: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • dashed: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • point: consists of one point, for example, [[0,100]]. • polyline: consists of multiple points, for example, [[0,100],[50,95],[10,60],[500,400]].
@modelarts:from	String	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label
@modelarts:hard	String	<p>Whether the sample is labeled as a hard example, which is a default attribute. Options:</p> <ul style="list-style-type: none"> • 0/false: The label is not a hard example. • 1/true: The label is a hard example.
@modelarts:hard_coefficient	String	Coefficient of difficulty of each label level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	String	<p>Reasons why the sample is a hard example, which is a default attribute. Use a hyphen (-) to separate every two hard example reason IDs, for example, 3-20-21-19. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on flplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:shape	String	Object shape, which is a default attribute dedicated to the object detection label and is left empty by default. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dashed line • point: point • polyline: polyline
@modelarts:speech_source	String	Speech source, which is a default attribute dedicated to the speech start/end point label and can be set to a speaker or narrator
@modelarts:start_index	Integer	Start position of the text, which is a default attribute dedicated to the named entity label. The start value begins from 0, including the character corresponding to the value of start_index .
@modelarts:start_time	String	Speech start time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:triplet_label	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 16-142 SampleMetadata

Parameter	Type	Description
@modelarts:import_origin	Integer	Sample source, which is a default attribute.
@modelarts:hard	Double	Whether the sample is labeled as a hard sample, which is a default attribute. Options: <ul style="list-style-type: none"> • 0: The label is not a hard example. • 1: The label is a hard example.
@modelarts:hard_coefficient	Double	Coefficient of difficulty of each sample level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	<p>ID of a hard example reason, which is a default attribute. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on fliplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:size	Array of objects	Default attribute: image size, including width, height, and depth. The type is List[/topic/body/section/table/tgroup/tbody/row/entry/p/br. {""}] (br]. In the list, the first number indicates the width (pixels), the second number indicates the height (pixels), and the third number indicates the depth (the depth can be left blank and the default value is 3). For example, [100,200,3] and [100,200] are both valid. Note: This parameter is mandatory only when the sample label list contains the object detection label.

Request Example

Run the following command to obtain details about a team labeling sample:

```
GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/data-annotations/samples/{sample_id}
```

Response Example

Status code: 200

OK

```
{
  "sample_id" : "26c6dd793d80d3274eb89349ec76d678",
  "sample_type" : 0,
  "labels" : [ ],
  "source" : "https://test-obs.obs.xxx.com:443/detect/data/dataset-car-and-person/IMG_kitti_0000_000016.png?AccessKeyId=4D34AYDTK93HUY79NSD7&Expires=1606300437&x-obs-security-token=gQpjb1ub3J0aC03jELficNKUP87aSTlhvsHQAvmcyVbXLYTrU2XJlc28F7kiXanJ3TyJV39ixl0yi5mzQ...",
  "metadata" : {
    "@modelarts:import_origin" : 0,
    "@modelarts:size" : [ 1242, 375, 3 ]
  },
  "sample_time" : 1598263639997,
  "sample_status" : "UN_ANNOTATION",
  "worker_id" : "8c15ad080d3eabad14037b4eb00d6a6f",
  "labelers" : [ {
    "email" : "xxx@xxx.com",
    "worker_id" : "afdda13895bc66322ffbf36ae833bcf0",
    "role" : 0
  } ]
}
```

Status Code

Status Code	Description
200	OK
401	Unauthorized

Status Code	Description
403	Forbidden
404	Not Found

Error Code

For details, see [Error Codes](#).

16.1.19 Querying the Dataset Label List

Function

This API is used to query all labels of a dataset.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}/data-annotations/labels

Table 16-143 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Table 16-144 Query Parameters

Parameter	Mandatory	Type	Description
version_id	No	String	Dataset version ID.
offset	No	Integer	Start page for pagination display. The default value is 0 .

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records returned on each page. The value ranges from 1 to 100000. The default value is 100000 .

Request Parameters

None

Response Parameters

Status code: 200

Table 16-145 Response body parameters

Parameter	Type	Description
labels	Array of Label objects	Label list.
total_number	Integer	Number of labels

Table 16-146 Label

Parameter	Type	Description
attributes	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
name	String	Label name.
property	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.

Parameter	Type	Description
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-147 LabelAttribute

Parameter	Type	Description
default_value	String	Default value of a label attribute.
id	String	Label attribute ID. You can query the tag by invoking the tag list.
name	String	Label attribute name. The value contains a maximum of 64 characters and cannot contain the character. <>=&"".
type	String	Label attribute type. Options: <ul style="list-style-type: none"> ● text: text ● select: single-choice drop-down list
values	Array of LabelAttributeValue objects	List of label attribute values.

Table 16-148 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

Table 16-149 LabelProperty

Parameter	Type	Description
@modelarts:color	String	Default attribute: Label color, which is a hexadecimal code of the color. By default, this parameter is left blank. Example: #FFFFFF0 .
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dotted line • point: point • polyline: polyline
@modelarts:from_type	String	Default attribute: Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.
@modelarts:rename_to	String	Default attribute: The new name of the label.
@modelarts:shortcut	String	Default attribute: Label shortcut key. By default, this parameter is left blank. For example: D .
@modelarts:to_type	String	Default attribute: Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Example Requests

Querying All Labels of a Dataset

```
GET https://{endpoint}/v2/{project_id}/datasets/WxCREuCkBSAlQr9xrde/data-annotations/labels
```

Example Responses

Status code: 200

OK

```
{
  "total_number" : 2,
  "labels" : [ {
```

```

    "name" : "Rabbits",
    "type" : 1,
    "property" : {
      "@modelarts:color" : "#3399ff"
    }
  }, {
    "name" : "Bees",
    "type" : 1,
    "property" : {
      "@modelarts:color" : "#3399ff"
    }
  }
]
}

```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.20 Creating a Dataset Label

Function

This API is used to create a dataset label.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/data-annotations/labels

Table 16-150 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.

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

Request Parameters

Table 16-151 Request body parameters

Parameter	Mandatory	Type	Description
labels	No	Array of Label objects	List of labels to be created.

Table 16-152 Label

Parameter	Mandatory	Type	Description
attributes	No	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
name	No	String	Label name.
property	No	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.
type	No	Integer	Label type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet relationship • 103: text triplet entity • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 600: video labeling

Table 16-153 LabelAttribute

Parameter	Mandatory	Type	Description
default_value	No	String	Default value of a label attribute.
id	No	String	Label attribute ID. You can query the tag by invoking the tag list.
name	No	String	Label attribute name. The value contains a maximum of 64 characters and cannot contain the character. <=&".
type	No	String	Label attribute type. Options: <ul style="list-style-type: none"> • text: text • select: single-choice drop-down list
values	No	Array of LabelAttributeValue objects	List of label attribute values.

Table 16-154 LabelAttributeValue

Parameter	Mandatory	Type	Description
id	No	String	Label attribute value ID.
value	No	String	Label attribute value.

Table 16-155 LabelProperty

Parameter	Mandatory	Type	Description
@modelarts:color	No	String	Default attribute: Label color, which is a hexadecimal code of the color. By default, this parameter is left blank. Example: #FFFFFF0 .

Parameter	Mandatory	Type	Description
@modelarts:default_shape	No	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dotted line • point: point • polyline: polyline
@modelarts:from_type	No	String	Default attribute: Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.
@modelarts:rename_to	No	String	Default attribute: The new name of the label.
@modelarts:shortcut	No	String	Default attribute: Label shortcut key. By default, this parameter is left blank. For example: D .
@modelarts:to_type	No	String	Default attribute: Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Response Parameters

Status code: 200

Table 16-156 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.
results	Array of BatchResponse objects	Response body for creating a label.
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> ● true: The operation is successful. ● false: The operation is failed.

Table 16-157 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> ● true: The operation is successful. ● false: The operation is failed.

Example Requests

The following is an example of how to create a dataset label whose name is **Cat** and shape is **bndbox** for object detection by default.

```
{
  "labels": [ {
    "name": "Cat",
    "property": {
      "@modelarts:color": "#3399ff",
      "@modelarts:default_shape": "bndbox"
    }
  } ]
}
```

Example Responses

Status code: 200

OK

```
{
  "success": true
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.21 Modifying Labels in Batches

Function

This API is used to modify labels in batches.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v2/{project_id}/datasets/{dataset_id}/data-annotations/labels

Table 16-158 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Request Parameters

Table 16-159 Request body parameters

Parameter	Mandatory	Type	Description
labels	No	Array of Label objects	List of labels to be updated.

Table 16-160 Label

Parameter	Mandatory	Type	Description
attributes	No	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
name	No	String	Label name.
property	No	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.
type	No	Integer	Label type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet relationship • 103: text triplet entity • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 600: video labeling

Table 16-161 LabelAttribute

Parameter	Mandatory	Type	Description
default_value	No	String	Default value of a label attribute.

Parameter	Mandatory	Type	Description
id	No	String	Label attribute ID. You can query the tag by invoking the tag list.
name	No	String	Label attribute name. The value contains a maximum of 64 characters and cannot contain the character. <>=&".
type	No	String	Label attribute type. Options: <ul style="list-style-type: none"> ● text: text ● select: single-choice drop-down list
values	No	Array of LabelAttributeValue objects	List of label attribute values.

Table 16-162 LabelAttributeValue

Parameter	Mandatory	Type	Description
id	No	String	Label attribute value ID.
value	No	String	Label attribute value.

Table 16-163 LabelProperty

Parameter	Mandatory	Type	Description
@modelarts:color	No	String	Default attribute: Label color, which is a hexadecimal code of the color. By default, this parameter is left blank. Example: #FFFFFF0 .

Parameter	Mandatory	Type	Description
@modelarts:default_shape	No	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dotted line • point: point • polyline: polyline
@modelarts:from_type	No	String	Default attribute: Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.
@modelarts:rename_to	No	String	Default attribute: The new name of the label.
@modelarts:shortcut	No	String	Default attribute: Label shortcut key. By default, this parameter is left blank. For example: D .
@modelarts:to_type	No	String	Default attribute: Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Response Parameters

Status code: 200

Table 16-164 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.
results	Array of BatchResponse objects	Response body for updating labels.
success	Boolean	Whether the operation is successful. Options: <ul style="list-style-type: none"> ● true: successful ● false: failed

Table 16-165 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> ● true: The operation is successful. ● false: The operation is failed.

Example Requests

Modifying Labels in Batches

```
{
  "labels": [ {
    "name": "Cat",
    "property": {
      "@modelarts:color": "#8a1524",
      "@modelarts:rename_to": "pussycat"
    }
  }
]
```

Example Responses

Status code: 200

OK

```
{
  "success": true
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.22 Deleting Labels in Batches

Function

This API is used to delete labels in batches.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/data-annotations/labels/delete

Table 16-166 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Table 16-167 Query Parameters

Parameter	Mandatory	Type	Description
delete_policy	No	Integer	Whether to delete a label and samples containing the label. Options: <ul style="list-style-type: none"> • 0: Delete the label. • 1: Delete the label and the samples that only contain this label, but do not delete source files. • 2: Delete the label and the samples that only contain this label and also delete source files.

Request Parameters

Table 16-168 Request body parameters

Parameter	Mandatory	Type	Description
labels	No	Array of Label objects	List of labels to be deleted.

Table 16-169 Label

Parameter	Mandatory	Type	Description
attributes	No	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
name	No	String	Label name.
property	No	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.

Parameter	Mandatory	Type	Description
type	No	Integer	Label type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet relationship • 103: text triplet entity • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 600: video labeling

Table 16-170 LabelAttribute

Parameter	Mandatory	Type	Description
default_value	No	String	Default value of a label attribute.
id	No	String	Label attribute ID. You can query the tag by invoking the tag list.
name	No	String	Label attribute name. The value contains a maximum of 64 characters and cannot contain the character. <>=&".
type	No	String	Label attribute type. Options: <ul style="list-style-type: none"> • text: text • select: single-choice drop-down list
values	No	Array of LabelAttributeValue objects	List of label attribute values.

Table 16-171 LabelAttributeValue

Parameter	Mandatory	Type	Description
id	No	String	Label attribute value ID.
value	No	String	Label attribute value.

Table 16-172 LabelProperty

Parameter	Mandatory	Type	Description
@modelarts:color	No	String	Default attribute: Label color, which is a hexadecimal code of the color. By default, this parameter is left blank. Example: #FFFFFF0.
@modelarts:default_shape	No	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dotted line • point: point • polyline: polyline
@modelarts:form_type	No	String	Default attribute: Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.
@modelarts:rename_to	No	String	Default attribute: The new name of the label.
@modelarts:shortcut	No	String	Default attribute: Label shortcut key. By default, this parameter is left blank. For example: D .

Parameter	Mandatory	Type	Description
@modelarts:to_type	No	String	Default attribute: Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Response Parameters

Status code: 200

Table 16-173 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
results	Array of BatchResponse objects	Response body for deleting a label.
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> • true: The operation is successful. • false: The operation is failed.

Table 16-174 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> • true: The operation is successful. • false: The operation is failed.

Example Requests

The following is an example of how to delete the tag named **strawberry**.

```
{  
  "labels": [ {  
    "name": "strawberry"  
  } ]  
}
```

Example Responses

Status code: 200

OK

```
{  
  "success": true  
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.23 Updating a Label by Label Names

Function

This API is used to update a label by label names.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v2/{project_id}/datasets/{dataset_id}/data-annotations/labels/{label_name}

Table 16-175 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.

Parameter	Mandatory	Type	Description
label_name	Yes	String	Label name.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Table 16-176 Query Parameters

Parameter	Mandatory	Type	Description
label_type	No	Integer	Label type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet relationship label • 103: text triplet entity label • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 600: video labeling

Request Parameters

Table 16-177 Request body parameters

Parameter	Mandatory	Type	Description
@modelarts:color	No	String	Default attribute: Label color, which is a hexadecimal code of the color. By default, this parameter is left blank. Example: #FFFFFF0 .

Parameter	Mandatory	Type	Description
@modelarts:default_shape	No	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dotted line • point: point • polyline: polyline
@modelarts:from_type	No	String	Default attribute: Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.
@modelarts:rename_to	No	String	Default attribute: The new name of the label.
@modelarts:shortcut	No	String	Default attribute: Label shortcut key. By default, this parameter is left blank. For example: D .
@modelarts:to_type	No	String	Default attribute: Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Response Parameters

Status code: 204

Table 16-178 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.
success	Boolean	Whether the operation is successful. Options: <ul style="list-style-type: none"> • true: successful • false: failed

Example Requests

Updating a Label by Label Names

```
{
  "@modelarts:color" : "#93c47d"
}
```

Example Responses

Status code: 204

No Content

```
{}
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.24 Deleting a Label and the Files that Only Contain the Label

Function

This API is used to delete a label and the files that only contain this label.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v2/{project_id}/datasets/{dataset_id}/data-annotations/labels/{label_name}

Table 16-179 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
label_name	Yes	String	Label name.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Table 16-180 Query Parameters

Parameter	Mandatory	Type	Description
delete_source	No	Boolean	Whether to delete the sample source files. Options: <ul style="list-style-type: none"> true: Delete the sample source files. false: Do not delete the sample source files. (Default value)

Parameter	Mandatory	Type	Description
label_type	No	Integer	Label type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet relationship label • 103: text triplet entity label • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 600: video labeling

Request Parameters

None

Response Parameters

Status code: 204

Table 16-181 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> • true: The operation is successful. • false: The operation is failed.

Example Requests

Deleting a Label and the Files that Only Contain the Label

```
DELETE https://{endpoint}/v2/{project_id}/datasets/WxCREuCkBSAlQr9xrde/data-annotations/labels/%E8%8D%89%E8%8E%93
```

Example Responses

Status code: 204

No Content

```
{  
  "success" : true  
}
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden

Error Codes

See [Error Codes](#).

16.1.25 Updating Sample Labels in Batches

Function

This API is used to update sample labels in batches, including adding, modifying, and deleting sample labels. If the parameter **Labels** of a sample in the request body is not specified, the label of the sample is deleted.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v2/{project_id}/datasets/{dataset_id}/data-annotations/samples

Table 16-182 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Request Parameters

Table 16-183 Request body parameters

Parameter	Mandatory	Type	Description
email	No	String	Email address of a labeling team member.
samples	No	Array of SampleLabels objects	Updated sample list.

Table 16-184 SampleLabels

Parameter	Mandatory	Type	Description
labels	No	Array of SampleLabels objects	Sample label list. If this parameter is left blank, all sample labels are deleted.
metadata	No	SampleMetadata object	Key-value pair of the sample metadata attribute.
sample_id	No	String	Sample ID.
sample_type	No	Integer	Sample type. Options: <ul style="list-style-type: none"> • 0: image • 1: text • 2: speech • 4: table • 6: video • 9: custom format
sample_usage	No	String	Sample usage. Options: <ul style="list-style-type: none"> • TRAIN: training • EVAL: evaluation • TEST: test • INFERENCE: inference
source	No	String	Source address of sample data, which is obtained by invoking the sample list interface.
worker_id	No	String	ID of a labeling team member.

Table 16-185 SampleLabel

Parameter	Mandatory	Type	Description
annotated_by	No	String	Video labeling method, which is used to distinguish whether a video is labeled manually or automatically. Options: <ul style="list-style-type: none"> • human: manual labeling • auto: automatic labeling
id	No	String	Label ID.
name	No	String	Label name.
property	No	SampleLabel Property object	Attribute key-value pair of the sample label, such as the object shape and shape feature.
score	No	Float	Confidence. The value range is [0,1].
type	No	Integer	Label type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet relationship • 103: text triplet entity • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 600: video labeling

Table 16-186 SampleLabelProperty

Parameter	Mandatory	Type	Description
@modelarts:content	No	String	Speech text content, which is a default attribute dedicated to the speech label (including the speech content and speech start and end points).

Parameter	Mandatory	Type	Description
@modelarts:end_index	No	Integer	<p>End position of the text, which is a default attribute dedicated to the named entity label. The end position does not include the character corresponding to the value of end_index.</p> <p>Example:</p> <ul style="list-style-type: none"> • If the text is "Barack Hussein Obama II (born August 4, 1961) is an attorney and politician.", start_index and end_index of Barack Hussein Obama II are 0 and 23, respectively. • If the text is "Hope is the thing with feathers", start_index and end_index of Hope are 0 and 4, respectively.
@modelarts:end_time	No	String	<p>Speech end time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)</p>

Parameter	Mandatory	Type	Description
@modelarts:feature	No	Object	<p>Shape feature, which is a default attribute dedicated to the object detection label, with type of List. The upper left corner of the image is used as the coordinate origin [0, 0]. Each coordinate point is represented by [x, y], where x indicates the horizontal coordinate and y indicates the vertical coordinate (both x and y are >=0). The format of each shape is as follows:</p> <ul style="list-style-type: none"> • bndbox consists of two points, for example, [[0,10],[50,95]]. The upper left vertex of the rectangle is the first point, and the lower right vertex is the second point. That is, the x-coordinate of the first point must be less than the x-coordinate of the second point, and the y-coordinate of the first point must be less than the y-coordinate of the second point. • polygon: consists of multiple points that are connected in sequence to form a polygon, for example, [[0,100],[50,95],[10,60],[500,400]]. • circle: consists of the center and radius, for example, [[100,100],[50]]. • line: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • dashed: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • point: consists of one point, for example, [[0,100]]. • polyline: consists of multiple points, for example, [[0,100],[50,95],[10,60],[500,400]].
@modelarts:from	No	String	ID of the head entity in the triplet relationship label, which is a default attribute dedicated to the triplet relationship label.
@modelarts:hard	No	String	Sample labeled as a hard sample or not, which is a default attribute. Options: <ul style="list-style-type: none"> • 0/false: not a hard example • 1/true: hard example
@modelarts:hard_coefficient	No	String	Coefficient of difficulty of each label level, which is a default attribute. The value range is [0,1] .

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	String	<p>Reasons that the sample is a hard sample, which is a default attribute. Use a hyphen (-) to separate every two hard sample reason IDs, for example, 3-20-21-19.</p> <p>Options:</p> <ul style="list-style-type: none"> ● 0: No target objects are identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data enhancement result based on

Parameter	Mandatory	Type	Description
			<p>GaussianBlur is inconsistent with the prediction result of the original image.</p> <ul style="list-style-type: none"> ● 20: The data enhancement result based on fliplr is inconsistent with the prediction result of the original image. ● 21: The data enhancement result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data enhancement result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data enhancement result based on scale is inconsistent with the prediction result of the original image. ● 24: The data enhancement result based on translate is inconsistent with the prediction result of the original image. ● 25: The data enhancement result based on shear is inconsistent with the prediction result of the original image. ● 26: The data enhancement result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data enhancement result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data enhancement result based on add is inconsistent with the prediction result of the original image.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● 29: The data enhancement result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.
@modelarts:shape	No	String	<p>Object shape, which is a default attribute dedicated to the object detection label and is left empty by default.</p> <p>Options:</p> <ul style="list-style-type: none"> ● bndbox: rectangle ● polygon: polygon ● circle: circle ● line: straight line ● dashed: dotted line ● point: point ● polyline: polyline
@modelarts:speech_source	No	String	Speech source, which is a default attribute dedicated to the speech start/end point label and can be set to a speaker or narrator.
@modelarts:start_index	No	Integer	Start position of the text, which is a default attribute dedicated to the named entity label. The start value begins from 0, including the character corresponding to the value of start_index .
@modelarts:start_time	No	String	Speech start time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS . (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:tail_id	No	String	ID of the tail entity in the triplet relationship label, which is a default attribute dedicated to the triplet relationship label.

Table 16-187 SampleMetadata

Parameter	Mandatory	Type	Description
@modelarts:import_origin	No	Integer	Sample source, which is a built-in attribute.
@modelarts:hard	No	Double	Whether the sample is labeled as a hard sample, which is a default attribute. Options: <ul style="list-style-type: none"> • 0: non-hard sample • 1: hard sample
@modelarts:hard_coefficient	No	Double	Coefficient of difficulty of each sample level, which is a default attribute. The value range is [0,1] .

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	Array of integers	<p>ID of a hard sample reason, which is a default attribute. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data enhancement result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data enhancement result based on fliplr is

Parameter	Mandatory	Type	Description
			<p>inconsistent with the prediction result of the original image.</p> <ul style="list-style-type: none"> ● 21: The data enhancement result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data enhancement result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data enhancement result based on scale is inconsistent with the prediction result of the original image. ● 24: The data enhancement result based on translate is inconsistent with the prediction result of the original image. ● 25: The data enhancement result based on shear is inconsistent with the prediction result of the original image. ● 26: The data enhancement result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data enhancement result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data enhancement result based on add is inconsistent with the prediction result of the original image. ● 29: The data enhancement result based on invert is inconsistent with the prediction result of the original image.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> 30: The data is predicted to be abnormal.
@modelarts:size	No	Array of objects	Image size (width, height, and depth of the image), which is a default attribute, with type of List<Integer> . In the list, the first number indicates the width (pixels), the second number indicates the height (pixels), and the third number indicates the depth (the depth can be left blank and the default value is 3). For example, [100,200,3] and [100,200] are both valid. Note: This parameter is mandatory only when the sample label list contains the object detection label.

Response Parameters

Status code: 200

Table 16-188 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
results	Array of BatchResponse objects	Response list for updating sample labels in batches.
success	Boolean	Whether the operation is successful. Options: <ul style="list-style-type: none"> true: successful false: failed

Table 16-189 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Parameter	Type	Description
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> • true: The operation is successful. • false: The operation is failed.

Example Requests

Updating Sample Labels in Batches

```
{
  "samples": [ {
    "sample_id": "8b583c44bf249f8ba43ea42c92920221",
    "labels": [ {
      "name": "yunbao"
    } ]
  }, {
    "sample_id": "b5fe3039879660a2e6bf18166e247f68",
    "labels": [ {
      "name": "yunbao"
    } ]
  } ]
}
```

Example Responses

Status code: 200

OK

```
{
  "success": true
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.26 Querying the Team Labeling Task List of a Dataset

Function

This API is used to query the team labeling task list of a dataset.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}/workforce-tasks

Table 16-190 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Table 16-191 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Start page for pagination display. The default value is 0 .
limit	No	Integer	Maximum number of records returned on each page. The value ranges from 1 to 1000. The default value is 1000 .

Request Parameters

None

Response Parameters

Status code: 200

Table 16-192 Response body parameters

Parameter	Type	Description
count	Integer	Total number of team labeling tasks.
tasks	Array of WorkforceTask objects	Team labeling task list queried by page.

Table 16-193 WorkforceTask

Parameter	Type	Description
auto_sync_dataset	Boolean	Whether to automatically synchronize the result of a team labeling task to the dataset. Options: <ul style="list-style-type: none"> true: Automatically synchronize the result of a team labeling task to the dataset. false: Do not automatically synchronize the result of a team labeling task to the dataset.
check_rate	Double	Acceptance ratio of a team labeling task.
checking_task_desc	WorkforceSamplingTaskDesc object	Details about the current acceptance task of a team labeling task.
create_time	Long	Time when a labeling task is created.
dataset_id	String	Dataset ID.
description	String	Description of a labeling task.
label_stats	Array of LabelStats objects	Label statistics of a labeling task.
pass_rate	Double	Acceptance pass rate of a team labeling task.
repetition	Integer	Number of persons who label each sample in a team labeling task. The minimum value is 1 .
sample_search_conditions	Array of SearchCondition objects	Sample search criteria when creating a task.
sample_stats	SampleStats object	Sample statistics of a labeling task.
score	Double	Average acceptance score of a team labeling task.

Parameter	Type	Description
status	Integer	<p>Status of a team labeling task. Options:</p> <ul style="list-style-type: none"> ● 0: Starting. The owner or manager is starting the task, and files to be labeled are still being allocated. The owner, manager, annotator, and reviewer can view the task list. Since the task allocation has not been completed, no other task can be started. ● 1: Running. The annotator or reviewer performs labeling or reviews the task, and the owner performs acceptance. For example, new files need to be allocated again if auto labeling files are added or synchronized, or unlabeled files are imported. ● 2: Accepting. The owner initiates an acceptance task, but the acceptance has not been completed. In this state, a new acceptance task can be started only after the current one is completed. ● 3: Accepted. The team labeling task has been completed. ● **4: Rejected. The manager starts the task again. In this state, samples need to be labeled and the task must be reviewed again. ● 5: Synchronizing acceptance result. This status is added when an acceptance task changes to be asynchronous. In this state, no new acceptance task can be initiated and the current acceptance task cannot be continued. In the task name area, the system displays a message indicating that the acceptance result is being synchronized. ● 6: Created. The task has been created by the owner but has not been started. Only the owner and manager can view the task list. ● 7: Acceptance sampling. This status is added when an acceptance task changes to be asynchronous. In this state, no new acceptance task can be initiated and the current acceptance task cannot be continued. In the task name area, the system displays a message indicating that acceptance sampling is in progress.

Parameter	Type	Description
synchronize_auto_labeling_data	Boolean	Whether to synchronize the auto labeling result of a team labeling task. Options: <ul style="list-style-type: none"> ● true: Synchronize the results to be confirmed to team members after auto labeling is complete. ● false: Do not synchronize the auto labeling results. (Default value)
synchronize_data	Boolean	Whether to synchronize the added data of a team labeling task. Options: <ul style="list-style-type: none"> ● true: Synchronize uploaded files, data sources, and imported unlabeled files to team members. ● false: Do not synchronize the added data. (Default value)
task_id	String	ID of a labeling task.
task_name	String	Name of a labeling task.
update_time	Long	Time when a labeling task is updated.
version_id	String	Version ID of the dataset associated with a labeling task.
workforce_stats	WorkforceStats object	Statistics on team labeling task members.
workforces_config	WorkforcesConfig object	Team labeling task information: Tasks can be assigned by the team administrator or a specified team.

Table 16-194 WorkforceSamplingTaskDesc

Parameter	Type	Description
action	Integer	Acceptance operations. Options: <ul style="list-style-type: none"> ● 0: Pass all samples. ● 1: Reject all samples. ● 4: Pass single-accepted samples and unaccepted samples. ● 5: Reject single-rejected samples and unaccepted samples.
checking_stats	CheckTaskStats object	Real-time report of acceptance tasks.
checking_task_id	String	ID of the current acceptance task.

Parameter	Type	Description
overwrite_last_result	Boolean	Whether to use the acceptance result to overwrite the labeled result if a sample has been labeled during acceptance. Options: <ul style="list-style-type: none"> • true: Overwrite the labeled result. • false: Do not overwrite the labeled result. (Default value)
total_stats	CheckTaskStats object	Overall report of historical acceptance tasks.

Table 16-195 CheckTaskStats

Parameter	Type	Description
accepted_sample_count	Integer	Accepted samples.
checked_sample_count	Integer	Checked samples.
pass_rate	Double	Pass rate of samples.
rejected_sample_count	Integer	Rejected samples.
sampled_sample_count	Integer	Number of sampled samples.
sampling_num	Integer	Samples of an acceptance task.
sampling_rate	Double	Sampling rate of an acceptance task.
score	String	Acceptance score.
task_id	String	ID of an acceptance task.
total_sample_count	Integer	Total samples.
total_score	Long	Total acceptance score.
unchecked_sample_count	Integer	Unchecked samples.

Table 16-196 LabelStats

Parameter	Type	Description
attributes	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
count	Integer	Number of labels.
name	String	Label name.
property	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.
sample_count	Integer	Number of samples containing the label.
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-197 LabelAttribute

Parameter	Type	Description
default_value	String	Default value of a label attribute.
id	String	Label attribute ID. You can query the tag by invoking the tag list.
name	String	Label attribute name. The value contains a maximum of 64 characters and cannot contain the character. <>=&''.
type	String	Label attribute type. Options: <ul style="list-style-type: none"> ● text: text ● select: single-choice drop-down list

Parameter	Type	Description
values	Array of LabelAttributeValue objects	List of label attribute values.

Table 16-198 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

Table 16-199 LabelProperty

Parameter	Type	Description
@modelarts:color	String	Default attribute: Label color, which is a hexadecimal code of the color. By default, this parameter is left blank. Example: #FFFFFF0 .
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dotted line • point: point • polyline: polyline
@modelarts:form_type	String	Default attribute: Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.
@modelarts:rename_to	String	Default attribute: The new name of the label.
@modelarts:shortcut	String	Default attribute: Label shortcut key. By default, this parameter is left blank. For example: D .

Parameter	Type	Description
@modelarts:tail_entity_type	String	Default attribute: Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Table 16-200 SearchCondition

Parameter	Type	Description
coefficient	String	Filter by coefficient of difficulty.
frame_in_video	Integer	A frame in the video.
hard	String	Whether a sample is a hard sample. Options: <ul style="list-style-type: none"> • 0: non-hard sample • 1: hard sample
import_origin	String	Filter by data source.
kvp	String	CT dosage, filtered by dosage.
label_list	SearchLabels object	Label search criteria.
labeler	String	Labeler.
metadata	SearchProp object	Search by sample attribute.
parent_sample_id	String	Parent sample ID.
sample_dir	String	Directory where data samples are stored (the directory must end with a slash (/)). Only samples in the specified directory are searched for. Recursive search of directories is not supported.
sample_name	String	Search by sample name, including the file name extension.

Parameter	Type	Description
sample_time	String	When a sample is added to the dataset, an index is created based on the last modification time (accurate to day) of the sample on OBS. You can search for the sample based on the time. Options: <ul style="list-style-type: none"> ● month: Search for samples added from 30 days ago to the current day. ● day: Search for samples added from yesterday (one day ago) to the current day. ● yyyyMMdd-yyyyMMdd: Search for samples added in a specified period (at most 30 days), in the format of Start date-End date. For example, 20190901-2019091501 indicates that samples generated from September 1 to September 15, 2019 are searched.
score	String	Search by confidence.
slice_thickness	String	DICOM layer thickness. Samples are filtered by layer thickness.
study_date	String	DICOM scanning time.
time_in_video	String	A time point in the video.

Table 16-201 SearchLabels

Parameter	Type	Description
labels	Array of SearchLabel objects	List of label search criteria.
op	String	If you want to search for multiple labels, op must be specified. If you search for only one label, op can be left blank. Options: <ul style="list-style-type: none"> ● OR: OR operation ● AND: AND operation

Table 16-202 SearchLabel

Parameter	Type	Description
name	String	Label name.

Parameter	Type	Description
op	String	Operation type between multiple attributes. Options: <ul style="list-style-type: none"> • OR: OR operation • AND: AND operation
property	Map<String,Array<String>>	Label attribute, which is in the Object format and stores any key-value pairs. key indicates the attribute name, and value indicates the value list. If value is null , the search is not performed by value. Otherwise, the search value can be any value in the list.
type	Integer	Label type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet relationship • 103: text triplet entity • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 600: video labeling

Table 16-203 SearchProp

Parameter	Type	Description
op	String	Relationship between attribute values. Options: <ul style="list-style-type: none"> • AND: AND relationship • OR: OR relationship
props	Map<String,Array<String>>	Search criteria of an attribute. Multiple search criteria can be set.

Table 16-204 SampleStats

Parameter	Type	Description
accepted_sample_count	Integer	Number of samples accepted by the owner.

Parameter	Type	Description
auto_annotation_sample_count	Integer	Number of samples to be confirmed after intelligent labeling.
deleted_sample_count	Integer	Number of deleted samples.
rejected_sample_count	Integer	Number of samples that failed to pass the owner acceptance.
sampled_sample_count	Integer	Number of samples that are to be accepted by the owner and sampled.
total_sample_count	Integer	Total number of samples.
unannotated_sample_count	Integer	Number of unlabeled samples.
uncheck_sample_count	Integer	Number of samples that have been approved by the reviewer and are to be accepted by the owner.
unreviewed_sample_count	Integer	Number of samples that have been labeled by the labeler but have not been reviewed by the reviewer.

Table 16-205 WorkforceStats

Parameter	Type	Description
labeler_count	Integer	Number of annotators. The value cannot exceed 100.
reviewer_count	Integer	Number of reviewers. The value cannot exceed 100.
workforce_count	Integer	Number of teams.

Table 16-206 WorkforcesConfig

Parameter	Type	Description
agency	String	Administrator
workforces	Array of WorkforceConfig objects	List of teams that execute labeling tasks.

Table 16-207 WorkforceConfig

Parameter	Type	Description
workers	Array of Worker objects	List of labeling team members.
workforce_id	String	ID of a labeling team.
workforce_name	String	Name of a labeling team. The value contains 0 to 1024 characters and does not support the following special characters: !<>=&''

Table 16-208 Worker

Parameter	Type	Description
create_time	Long	Creation time.
description	String	Labeling team member description. The value contains 0 to 256 characters and does not support the following special characters: ^!<>=&''
email	String	Email address of a labeling team member.
role	Integer	Role. Options: <ul style="list-style-type: none"> ● 0: labeling personnel ● 1: reviewer ● 2: team administrator ● 3: dataset owner
status	Integer	Current login status of a labeling team member. Options: <ul style="list-style-type: none"> ● 0: The invitation email has not been sent. ● 1: The invitation email has been sent but the user has not logged in. ● 2: The user has logged in. ● 3: The labeling team member has been deleted.
update_time	Long	Update time.
worker_id	String	ID of a labeling team member.
workforce_id	String	ID of a labeling team.

Example Requests

Querying the Team Labeling Task List of a Dataset

GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/workforce-tasks

Example Responses

Status code: 200

OK

```
{
  "count" : 2,
  "tasks" : [ {
    "dataset_id" : "WxCREuCkBSAlQr9xrde",
    "task_id" : "tY330MHxV9dqIPVaTRM",
    "task_name" : "task-cd60",
    "status" : 1,
    "create_time" : 1606224714358,
    "update_time" : 1606224714358,
    "repetition" : 1,
    "workforces_config" : {
      "workforces" : [ {
        "workforce_id" : "0PfqwXA8M59pppYBx4k",
        "workforce_name" : "team-123",
        "workers" : [ {
          "email" : "xxx@xxx.com",
          "worker_id" : "6db04ae0afb54d7274a2982255516c29",
          "role" : 2
        }, {
          "email" : "xxx@xxx.com",
          "worker_id" : "8c15ad080d3eabad14037b4eb00d6a6f",
          "role" : 0
        }
      ]
    }
  } ],
  "synchronize_data" : true,
  "synchronize_auto_labeling_data" : true,
  "workforce_stats" : {
    "workforce_count" : 1,
    "labeler_count" : 1,
    "reviewer_count" : 0
  },
  "sample_stats" : {
    "total_sample_count" : 309,
    "unannotated_sample_count" : 308,
    "unreviewed_sample_count" : 0,
    "uncheck_sample_count" : 1,
    "sampled_sample_count" : 0,
    "rejected_sample_count" : 0,
    "accepted_sample_count" : 0,
    "auto_annotation_sample_count" : 0
  },
  "auto_sync_dataset" : true
}, {
  "dataset_id" : "WxCREuCkBSAlQr9xrde",
  "task_id" : "iYZx7gScPUozOXner9k",
  "task_name" : "task-e63f",
  "status" : 1,
  "create_time" : 1606184400278,
  "update_time" : 1606184400278,
  "repetition" : 1,
  "workforces_config" : {
    "workforces" : [ {
      "workforce_id" : "q3ZFSwORu1ztKljDLYQ",
      "workforce_name" : "modelarts-team",
      "workers" : [ {
        "email" : "xxx@xxx.com",
        "worker_id" : "afdda13895bc66322ffbf36ae833bcf0",
        "role" : 0
      }
    ]
  }
} ]
}
```

```

    },
    "synchronize_data" : false,
    "synchronize_auto_labeling_data" : false,
    "workforce_stats" : {
      "workforce_count" : 1,
      "labeler_count" : 1,
      "reviewer_count" : 0
    },
    "sample_stats" : {
      "total_sample_count" : 317,
      "unannotated_sample_count" : 310,
      "unreviewed_sample_count" : 0,
      "uncheck_sample_count" : 0,
      "sampled_sample_count" : 0,
      "rejected_sample_count" : 0,
      "accepted_sample_count" : 7,
      "auto_annotation_sample_count" : 0
    },
    "checking_task_desc" : {
      "checking_task_id" : "onSbri2oqYOMdJdyW17",
      "action" : 0,
      "overwrite_last_result" : false
    },
    "auto_sync_dataset" : true
  }
}

```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.27 Creating a Team Labeling Task

Function

This API is used to create a team labeling task.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/workforce-tasks

Table 16-209 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Request Parameters

Table 16-210 Request body parameters

Parameter	Mandatory	Type	Description
auto_sync_dataset	No	Boolean	Whether to automatically synchronize the result of a team labeling task to the dataset. Options: <ul style="list-style-type: none"> • true: Automatically synchronize the result of a team labeling task to the dataset. (Default value) • false: Do not automatically synchronize the result of a team labeling task to the dataset.
data_sync_type	No	Integer	Synchronization type. Options: <ul style="list-style-type: none"> • 0: unsynchronization • 1: data synchronization • 2: label synchronization • 3: data and label synchronization
repetition	No	Integer	Number of persons who label each sample in a team labeling task. The minimum value is 1 .
sample_conditions	No	String	Search conditions of dataset samples. Samples that meet the conditions are filtered for team labeling.

Parameter	Mandatory	Type	Description
synchronize_autom_labeling_data	No	Boolean	Whether to synchronize the auto labeling result of a team labeling task. Options: <ul style="list-style-type: none"> true: Synchronize the results to be confirmed to team members after auto labeling is complete. false: Do not synchronize the auto labeling results. (Default value)
workforces_config	No	WorkforcesConfig object	Team labeling task information: Tasks can be assigned by the team administrator or a specified team.
task_name	No	String	Name of a team labeling task.
synchronize_data	No	Boolean	Whether to synchronously update new data.

Table 16-211 WorkforcesConfig

Parameter	Mandatory	Type	Description
agency	No	String	Administrator
workforces	No	Array of WorkforceConfig objects	List of teams that execute labeling tasks.

Table 16-212 WorkforceConfig

Parameter	Mandatory	Type	Description
workers	No	Array of Worker objects	List of labeling team members.
workforce_id	No	String	ID of a labeling team.
workforce_name	No	String	Name of a labeling team. The value contains 0 to 1024 characters and does not support the following special characters: !<>=&''

Table 16-213 Worker

Parameter	Mandatory	Type	Description
create_time	No	Long	Creation time.
description	No	String	Labeling team member description. The value contains 0 to 256 characters and does not support the following special characters: ^!<>=&'"
email	No	String	Email address of a labeling team member.
role	No	Integer	Role. Options: <ul style="list-style-type: none"> • 0: labeling personnel • 1: reviewer • 2: team administrator • 3: dataset owner
status	No	Integer	Current login status of a labeling team member. Options: <ul style="list-style-type: none"> • 0: The invitation email has not been sent. • 1: The invitation email has been sent but the user has not logged in. • 2: The user has logged in. • 3: The labeling team member has been deleted.
update_time	No	Long	Update time.
worker_id	No	String	ID of a labeling team member.
workforce_id	No	String	ID of a labeling team.

Response Parameters

Status code: 200

Table 16-214 Response body parameters

Parameter	Type	Description
task_id	String	ID of a team labeling task.

Example Requests

The following is an example of how to create a team labeling task. The task name has been set to **task-eb17**, **synchronize_data** has been set to **false**, and **synchronize_auto_labeling_data** has been set to **false**.

```
{
  "task_name" : "task-eb17",
  "synchronize_data" : false,
  "synchronize_auto_labeling_data" : false,
  "workforces_config" : {
    "workforces" : [ {
      "workforce_id" : "feSUo5NUIUnQAQNNTiS",
      "workers" : [ {
        "email" : "xxx@xxx.com"
      }, {
        "email" : "xxx@xxx.com"
      }, {
        "email" : "xxx@xxx.com"
      } ]
    } ]
  },
  "auto_sync_dataset" : false
}
```

Example Responses

Status code: 200

OK

```
{
  "task_id" : "6phXEto29utpaMwbQkg"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.28 Querying Details About a Team Labeling Task

Function

This API is used to query the details about a team labeling task.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}

Table 16-215 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_task_id	Yes	String	ID of a team labeling task.

Table 16-216 Query Parameters

Parameter	Mandatory	Type	Description
label_stats	No	Boolean	Whether to return label statistics. Options: <ul style="list-style-type: none"> true: Return label statistics. false: Do not return label statistics. (Default value)
sample_stats	No	Boolean	Whether to return sample statistics. Options: <ul style="list-style-type: none"> true: Return sample statistics. false: Do not return sample statistics. (Default value)
workforce_stats	No	Boolean	Whether to return personnel statistics. Options: <ul style="list-style-type: none"> true: Return personnel statistics. false: Do not return personnel statistics. (Default value)

Request Parameters

None

Response Parameters

Status code: 200

Table 16-217 Response body parameters

Parameter	Type	Description
auto_sync_dataset	Boolean	Whether to automatically synchronize the result of a team labeling task to the dataset. Options: <ul style="list-style-type: none"> • true: Automatically synchronize the result of a team labeling task to the dataset. • false: Do not automatically synchronize the result of a team labeling task to the dataset.
check_rate	Double	Acceptance ratio of a team labeling task.
checking_task_desc	WorkforceSamplingTaskDesc object	Details about the current acceptance task of a team labeling task.
create_time	Long	Time when a labeling task is created.
dataset_id	String	Dataset ID.
description	String	Description of a labeling task.
label_stats	Array of LabelStats objects	Label statistics of a labeling task.
pass_rate	Double	Acceptance pass rate of a team labeling task.
repetition	Integer	Number of persons who label each sample in a team labeling task. The minimum value is 1 .
sample_search_conditions	Array of SearchCondition objects	Sample search conditions when creating a task.
sample_stats	SampleStats object	Sample statistics of a labeling task.
score	Double	Average acceptance score of a team labeling task.

Parameter	Type	Description
status	Integer	<p>Status of a team labeling task. Options:</p> <ul style="list-style-type: none"> ● 0: Starting. The owner or manager is starting the task, and files to be labeled are still being allocated. The owner, manager, annotator, and reviewer can view the task list. Since the task allocation has not been completed, no other task can be started. ● 1: Running. The annotator or reviewer performs labeling or reviews the task, and the owner performs acceptance. For example, new files need to be allocated again if auto labeling files are added or synchronized, or unlabeled files are imported. ● 2: Accepting. The owner initiates an acceptance task, but the acceptance has not been completed. In this state, a new acceptance task can be started only after the current one is completed. ● 3: Accepted. The team labeling task has been completed. ● **4: Rejected. The manager starts the task again. In this state, samples need to be labeled and the task must be reviewed again. ● 5: Synchronizing acceptance result. This status is added when an acceptance task changes to be asynchronous. In this state, no new acceptance task can be initiated and the current acceptance task cannot be continued. In the task name area, the system displays a message indicating that the acceptance result is being synchronized. ● 6: Created. The task has been created by the owner but has not been started. Only the owner and manager can view the task list. ● 7: Acceptance sampling. This status is added when an acceptance task changes to be asynchronous. In this state, no new acceptance task can be initiated and the current acceptance task cannot be continued. In the task name area, the system displays a message indicating that acceptance sampling is in progress.

Parameter	Type	Description
synchronize_auto_labeling_data	Boolean	Whether to synchronize the auto labeling result of a team labeling task. Options: <ul style="list-style-type: none"> ● true: Synchronize the results to be confirmed to team members after auto labeling is complete. ● false: Do not synchronize the auto labeling results. (Default value)
synchronize_data	Boolean	Whether to synchronize the added data of a team labeling task. Options: <ul style="list-style-type: none"> ● true: Upload files, synchronize data sources, and synchronize imported unlabeled files to team members. ● false: Do not synchronize the added data. (Default value)
task_id	String	ID of a labeling task.
task_name	String	Name of a labeling task.
update_time	Long	Time when a labeling task is updated.
version_id	String	Version ID of the dataset associated with a labeling task.
worker_stats	Array of WorkerTask objects	Labeling progress statistics on team labeling task members.
workforce_stats	WorkforceStats object	Statistics on team labeling task members.
workforces_config	WorkforcesConfig object	Team labeling task information: Tasks can be assigned by the team administrator or a specified team.

Table 16-218 WorkforceSamplingTaskDesc

Parameter	Type	Description
action	Integer	Acceptance operations. Options: <ul style="list-style-type: none"> ● 0: Pass all samples. ● 1: Reject all samples. ● 4: Pass single-accepted samples and unaccepted samples. ● 5: Reject single-rejected samples and unaccepted samples.

Parameter	Type	Description
checking_stats	CheckTaskStats object	Real-time report of acceptance tasks.
checking_task_id	String	ID of the current acceptance task.
overwrite_last_result	Boolean	Whether to use the acceptance result to overwrite the labeled result if a sample has been labeled during acceptance. Options: <ul style="list-style-type: none"> • true: Overwrite the labeled result. • false: Do not overwrite the labeled result. (Default value)
total_stats	CheckTaskStats object	Overall report of historical acceptance tasks.

Table 16-219 CheckTaskStats

Parameter	Type	Description
accepted_sample_count	Integer	Accepted samples.
checked_sample_count	Integer	Checked samples.
pass_rate	Double	Pass rate of samples.
rejected_sample_count	Integer	Rejected samples.
sampled_sample_count	Integer	Number of sampled samples.
sampling_num	Integer	Samples of an acceptance task.
sampling_rate	Double	Sampling rate of an acceptance task.
score	String	Acceptance score.
task_id	String	ID of an acceptance task.
total_sample_count	Integer	Total samples.
total_score	Long	Total acceptance score.
unchecked_sample_count	Integer	Unchecked samples.

Table 16-220 LabelStats

Parameter	Type	Description
attributes	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
count	Integer	Number of labels.
name	String	Label name.
property	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.
sample_count	Integer	Number of samples containing the label.
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-221 LabelAttribute

Parameter	Type	Description
default_value	String	Default value of a label attribute.
id	String	Label attribute ID. You can query the tag by invoking the tag list.
name	String	Label attribute name. The value contains a maximum of 64 characters and cannot contain the character. <>=&''.
type	String	Label attribute type. Options: <ul style="list-style-type: none"> ● text: text ● select: single-choice drop-down list

Parameter	Type	Description
values	Array of LabelAttributeValue objects	List of label attribute values.

Table 16-222 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

Table 16-223 LabelProperty

Parameter	Type	Description
@modelarts:color	String	Default attribute: Label color, which is a hexadecimal code of the color. By default, this parameter is left blank. Example: #FFFFFF0 .
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> ● bndbox: rectangle ● polygon: polygon ● circle: circle ● line: straight line ● dashed: dotted line ● point: point ● polyline: polyline
@modelarts:form_type	String	Default attribute: Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.
@modelarts:rename_to	String	Default attribute: The new name of the label.
@modelarts:shortcut	String	Default attribute: Label shortcut key. By default, this parameter is left blank. For example: D .

Parameter	Type	Description
@modelarts:tail_o_type	String	Default attribute: Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Table 16-224 SearchCondition

Parameter	Type	Description
coefficient	String	Filter by coefficient of difficulty.
frame_in_video	Integer	A frame in the video.
hard	String	Whether a sample is a hard sample. Options: <ul style="list-style-type: none"> • 0: non-hard sample • 1: hard sample
import_origin	String	Filter by data source.
kvp	String	CT dosage, filtered by dosage.
label_list	SearchLabels object	Label search criteria.
labeler	String	Labeler.
metadata	SearchProp object	Search by sample attribute.
parent_sample_id	String	Parent sample ID.
sample_dir	String	Directory where data samples are stored (the directory must end with a slash (/)). Only samples in the specified directory are searched for. Recursive search of directories is not supported.
sample_name	String	Search by sample name, including the file name extension.

Parameter	Type	Description
sample_time	String	When a sample is added to the dataset, an index is created based on the last modification time (accurate to day) of the sample on OBS. You can search for the sample based on the time. Options: <ul style="list-style-type: none"> ● month: Search for samples added from 30 days ago to the current day. ● day: Search for samples added from yesterday (one day ago) to the current day. ● yyyyMMdd-yyyyMMdd: Search for samples added in a specified period (at most 30 days), in the format of Start date-End date. For example, 20190901-2019091501 indicates that samples generated from September 1 to September 15, 2019 are searched.
score	String	Search by confidence.
slice_thickness	String	DICOM layer thickness. Samples are filtered by layer thickness.
study_date	String	DICOM scanning time.
time_in_video	String	A time point in the video.

Table 16-225 SearchLabels

Parameter	Type	Description
labels	Array of SearchLabel objects	List of label search criteria.
op	String	If you want to search for multiple labels, op must be specified. If you search for only one label, op can be left blank. Options: <ul style="list-style-type: none"> ● OR: OR operation ● AND: AND operation

Table 16-226 SearchLabel

Parameter	Type	Description
name	String	Label name.

Parameter	Type	Description
op	String	Operation type between multiple attributes. Options: <ul style="list-style-type: none"> • OR: OR operation • AND: AND operation
property	Map<String,Array<String>>	Label attribute, which is in the Object format and stores any key-value pairs. key indicates the attribute name, and value indicates the value list. If value is null , the search is not performed by value. Otherwise, the search value can be any value in the list.
type	Integer	Label type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet relationship • 103: text triplet entity • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 600: video labeling

Table 16-227 SearchProp

Parameter	Type	Description
op	String	Relationship between attribute values. Options: <ul style="list-style-type: none"> • AND: AND relationship • OR: OR relationship
props	Map<String,Array<String>>	Search criteria of an attribute. Multiple search criteria can be set.

Table 16-228 WorkerTask

Parameter	Type	Description
create_time	Long	Time when a labeling team member's task is created.

Parameter	Type	Description
dataset_id	String	ID of a dataset associated with a labeling team member's task.
dataset_type	Integer	Labeling type of a team member's task.
email	String	Email address of a labeling team member.
email_status	Integer	Email notification status of a labeling team member's labeling task. Options: <ul style="list-style-type: none"> ● 0: The email has not been sent. ● 1: The email format is incorrect. ● 2: The email address is unreachable. ● 3: The email has been sent.
last_notify_time	Long	Timestamp of the latest notification email sent to a labeling team member.
pass_rate	Double	Pass rate of task acceptance review for a labeling team member.
role	Integer	Role of a labeling team member.
sample_stats	SampleStats object	Sample statistics of a labeling team member's task.
score	Double	Average acceptance score of labeling team members' task samples.
task_id	String	Team labeling task ID associated with a member's task.
task_status	Integer	Task status of a labeling team member. Options: <ul style="list-style-type: none"> ● 6: created ● 0: starting ● 1: running ● 2: under acceptance ● 3: approved, indicating the team labeling task is complete ● 4: rejected, indicating that the task needs to be labeled and reviewed again
update_time	Long	Time when a labeling team member's task is updated.
worker_id	String	ID of a labeling team member.
workforce_task_name	String	Team labeling task name associated with a member's task.

Table 16-229 SampleStats

Parameter	Type	Description
accepted_sample_count	Integer	Number of samples accepted by the owner.
auto_annotation_sample_count	Integer	Number of samples to be confirmed after intelligent labeling.
deleted_sample_count	Integer	Number of deleted samples.
rejected_sample_count	Integer	Number of samples that failed to pass the owner acceptance.
sampled_sample_count	Integer	Number of samples that are to be accepted by the owner and sampled.
total_sample_count	Integer	Total number of samples.
unannotated_sample_count	Integer	Number of unlabeled samples.
uncheck_sample_count	Integer	Number of samples that have been approved by the reviewer and are to be accepted by the owner.
unreviewed_sample_count	Integer	Number of samples that have been labeled by the labeler but have not been reviewed by the reviewer.

Table 16-230 WorkforceStats

Parameter	Type	Description
labeler_count	Integer	Number of annotators. The value cannot exceed 100.
reviewer_count	Integer	Number of reviewers. The value cannot exceed 100.
workforce_count	Integer	Number of teams.

Table 16-231 WorkforcesConfig

Parameter	Type	Description
agency	String	Administrator

Parameter	Type	Description
workforces	Array of WorkforceConfig objects	List of teams that execute labeling tasks.

Table 16-232 WorkforceConfig

Parameter	Type	Description
workers	Array of Worker objects	List of labeling team members.
workforce_id	String	ID of a labeling team.
workforce_name	String	Name of a labeling team. The value contains 0 to 1024 characters and does not support the following special characters: !<>=&''

Table 16-233 Worker

Parameter	Type	Description
create_time	Long	Creation time.
description	String	Labeling team member description. The value contains 0 to 256 characters and does not support the following special characters: ^!<>=&''
email	String	Email address of a labeling team member.
role	Integer	Role. Options: <ul style="list-style-type: none"> ● 0: labeling personnel ● 1: reviewer ● 2: team administrator ● 3: dataset owner
status	Integer	Current login status of a labeling team member. Options: <ul style="list-style-type: none"> ● 0: The invitation email has not been sent. ● 1: The invitation email has been sent but the user has not logged in. ● 2: The user has logged in. ● 3: The labeling team member has been deleted.
update_time	Long	Update time.

Parameter	Type	Description
worker_id	String	ID of a labeling team member.
workforce_id	String	ID of a labeling team.

Example Requests

Querying Details About a Team Labeling Task

```
GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}
```

Example Responses

Status code: 200

OK

```
{
  "dataset_id": "WxCREuCbBSAIQr9xrde",
  "task_id": "iYZx7gScPUozOXner9k",
  "task_name": "task-e63f",
  "status": 1,
  "create_time": 1606184400278,
  "update_time": 1606184400278,
  "repetition": 1,
  "workforces_config": {
    "workforces": [ {
      "workforce_id": "q3ZFSwORu1ztKljDLYQ",
      "workers": [ {
        "email": "xxx@xxx.com",
        "worker_id": "afdda13895bc66322ffbf36ae833bcf0",
        "role": 0
      }
    ]
  }
],
  "synchronize_data": false,
  "synchronize_auto_labeling_data": false,
  "workforce_stats": {
    "workforce_count": 1,
    "labeler_count": 1,
    "reviewer_count": 0
  },
  "sample_stats": {
    "total_sample_count": 317,
    "unannotated_sample_count": 310,
    "unreviewed_sample_count": 0,
    "uncheck_sample_count": 0,
    "sampled_sample_count": 0,
    "rejected_sample_count": 0,
    "accepted_sample_count": 7,
    "auto_annotation_sample_count": 0
  },
  "checking_task_desc": {
    "checking_task_id": "onSbri2oqYOmDjDyW17",
    "action": 0,
    "overwrite_last_result": false
  },
  "auto_sync_dataset": true,
  "worker_stats": [ {
    "email": "xxx@xxx.com",
    "worker_id": "afdda13895bc66322ffbf36ae833bcf0",
    "role": 0,
    "task_id": "iYZx7gScPUozOXner9k",
```

```

"workforce_task_name" : "task-e63f",
"dataset_id" : "WxCREuCkBSALQr9xrde",
"sample_stats" : {
  "total_sample_count" : 317,
  "unannotated_sample_count" : 310,
  "unreviewed_sample_count" : 0,
  "uncheck_sample_count" : 0,
  "sampled_sample_count" : 0,
  "rejected_sample_count" : 0,
  "accepted_sample_count" : 7,
  "auto_annotation_sample_count" : 0
},
"create_time" : 1606184400278,
"update_time" : 1606184795050,
"email_status" : 3,
"last_notify_time" : 0
}]
}

```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.29 Starting a Team Labeling Task

Function

This API is used to start a team labeling task.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}

Table 16-234 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_task_id	Yes	String	ID of a team labeling task.

Request Parameters

Table 16-235 Request body parameters

Parameter	Mandatory	Type	Description
dataset_id	No	String	Dataset ID.
task_id	No	String	ID of a team labeling task.
workforces_config	No	WorkforcesConfig object	Team labeling task information: Tasks can be assigned by the team administrator or a specified team.

Table 16-236 WorkforcesConfig

Parameter	Mandatory	Type	Description
agency	No	String	Administrator
workforces	No	Array of WorkforceConfig objects	List of teams that execute labeling tasks.

Table 16-237 WorkforceConfig

Parameter	Mandatory	Type	Description
workers	No	Array of Worker objects	List of labeling team members.
workforce_id	No	String	ID of a labeling team.

Parameter	Mandatory	Type	Description
workforce_name	No	String	Name of a labeling team. The value contains 0 to 1024 characters and does not support the following special characters: !<>=&''

Table 16-238 Worker

Parameter	Mandatory	Type	Description
create_time	No	Long	Creation time.
description	No	String	Labeling team member description. The value contains 0 to 256 characters and does not support the following special characters: ^!<>=&''
email	No	String	Email address of a labeling team member.
role	No	Integer	Role. Options: <ul style="list-style-type: none"> • 0: labeling personnel • 1: reviewer • 2: team administrator • 3: dataset owner
status	No	Integer	Current login status of a labeling team member. Options: <ul style="list-style-type: none"> • 0: The invitation email has not been sent. • 1: The invitation email has been sent but the user has not logged in. • 2: The user has logged in. • 3: The labeling team member has been deleted.
update_time	No	Long	Update time.
worker_id	No	String	ID of a labeling team member.
workforce_id	No	String	ID of a labeling team.

Response Parameters

None

Example Requests

Starting a Team Labeling Task

```
{
  "workforces_config": {
    "workforces": [ {
      "workforce_id": "l4u9Hpz2JJ67DNN1Hg9",
      "workers": [ {
        "email": "xiaozhang@163.com"
      }, {
        "email": "xiaoli@163.com"
      } ]
    } ]
  }
}
```

Example Responses

Status code: 200

OK

```
{ }
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.30 Updating a Team Labeling Task

Function

This API is used to update a team labeling task.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}

Table 16-239 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_task_id	Yes	String	ID of a team labeling task.

Request Parameters

Table 16-240 Request body parameters

Parameter	Mandatory	Type	Description
dataset_id	No	String	Dataset ID.
description	No	String	Team labeling task description. The value contains 0 to 256 characters and does not support the following special characters: ^!<>=&""
task_id	No	String	ID of a team labeling task.
task_name	No	String	Team labeling task name. The value contains 1 to 64 characters and only letters, digits, underscores (_), and hyphens (-) are allowed.
workforces_config	No	WorkforcesConfig object	Team labeling task information: Tasks can be assigned by the team administrator or a specified team.

Table 16-241 WorkforcesConfig

Parameter	Mandatory	Type	Description
agency	No	String	Administrator
workforces	No	Array of WorkforceConfig objects	List of teams that execute labeling tasks.

Table 16-242 WorkforceConfig

Parameter	Mandatory	Type	Description
workers	No	Array of Worker objects	List of labeling team members.
workforce_id	No	String	ID of a labeling team.
workforce_name	No	String	Name of a labeling team. The value contains 0 to 1024 characters and does not support the following special characters: !<>=&''

Table 16-243 Worker

Parameter	Mandatory	Type	Description
create_time	No	Long	Creation time.
description	No	String	Labeling team member description. The value contains 0 to 256 characters and does not support the following special characters: ^!<>=&''
email	No	String	Email address of a labeling team member.
role	No	Integer	Role. Options: <ul style="list-style-type: none"> ● 0: labeling personnel ● 1: reviewer ● 2: team administrator ● 3: dataset owner
status	No	Integer	Current login status of a labeling team member. Options: <ul style="list-style-type: none"> ● 0: The invitation email has not been sent. ● 1: The invitation email has been sent but the user has not logged in. ● 2: The user has logged in. ● 3: The labeling team member has been deleted.
update_time	No	Long	Update time.

Parameter	Mandatory	Type	Description
worker_id	No	String	ID of a labeling team member.
workforce_id	No	String	ID of a labeling team.

Response Parameters

None

Example Requests

Updating a Team Labeling Task

```
{
  "workforces_config": {
    "workforces": [{
      "workforce_id": "3frbQ90hb8ZKksAhyR8",
      "workers": [{
        "email": "xxx@xxx.com"
      }, {
        "email": "xxx@xxx.com"
      }]
    }]
  }
}
```

Example Responses

Status code: 200

OK

```
{}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.31 Deleting a Team Labeling Task

Function

This API is used to delete a team labeling task.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}

Table 16-244 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_task_id	Yes	String	ID of a team labeling task.

Request Parameters

None

Response Parameters

None

Example Requests

Deleting a Team Labeling Task

```
DELETE https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}
```

Example Responses

Status code: 204

No Content

```
{}
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden

Error Codes

See [Error Codes](#).

16.1.32 Creating a Team Labeling Acceptance Task

Function

This API is used to create a team labeling acceptance task.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/acceptance

Table 16-245 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_task_id	Yes	String	ID of a team labeling task.

Request Parameters

Table 16-246 Request body parameters

Parameter	Mandatory	Type	Description
sampling_number	No	Integer	Number of samples for the acceptance task. Either this parameter or the sampling ratio is delivered.
sampling_rate	No	Double	Sampling ratio of the acceptance task. The value range is (0,1]. Either this parameter or the number of samples is delivered.

Response Parameters

Status code: 200

Table 16-247 Response body parameters

Parameter	Type	Description
task_id	String	ID of an asynchronous acceptance task.

Example Requests

Creating a Team Labeling Acceptance Task and Setting the Sampling Percentage to 20%

```
{
  "sampling_rate" : 0.2
}
```

Example Responses

Status code: 200

OK

```
{
  "task_id" : "nv6BbozxCJmZcHAE9hV"
}
```

Status Codes

Status Code	Description
200	OK

Status Code	Description
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.33 Querying the Report of a Team Labeling Acceptance Task

Function

This API is used to query the report of a team labeling acceptance task.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/acceptance/report

Table 16-248 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_task_id	Yes	String	ID of a team labeling task.

Table 16-249 Query Parameters

Parameter	Mandatory	Type	Description
checking_task_id	Yes	String	ID of the task that is being checked.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-250 Response body parameters

Parameter	Type	Description
checking_stats	CheckTaskStats object	Real-time acceptance statistics.
total_stats	CheckTaskStats object	Historical statistics.

Table 16-251 CheckTaskStats

Parameter	Type	Description
accepted_sample_count	Integer	Accepted samples.
checked_sample_count	Integer	Checked samples.
pass_rate	Double	Pass rate of samples.
rejected_sample_count	Integer	Rejected samples.
sampled_sample_count	Integer	Number of sampled samples.
sampling_num	Integer	Samples of an acceptance task.
sampling_rate	Double	Sampling rate of an acceptance task.
score	String	Acceptance score.
task_id	String	ID of an acceptance task.

Parameter	Type	Description
total_sample_count	Integer	Total samples.
total_score	Long	Total acceptance score.
unchecked_sample_count	Integer	Unchecked samples.

Example Requests

Querying the Report of a Team Labeling Acceptance Task

```
GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/acceptance/report
```

Example Responses

Status code: 200

OK

```
{
  "total_stats" : {
    "sampling_rate" : 1.0,
    "sampling_num" : 3,
    "pass_rate" : 0.0,
    "score" : "E",
    "total_score" : 0,
    "total_sample_count" : 3,
    "sampled_sample_count" : 3,
    "unchecked_sample_count" : 3,
    "checked_sample_count" : 0,
    "accepted_sample_count" : 0,
    "rejected_sample_count" : 0
  }
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.34 Updating Status of a Team Labeling Acceptance Task

Function

Determine the acceptance scope for a team labeling task, including all labeled data, and update the sample data accordingly.

Debugging

You can debug this API in [API Explorer](#) which supports automatic authentication. API Explorer can automatically generate SDK code examples and provide the SDK code example debugging.

URI

PUT /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/acceptance/status

Table 16-252 URI parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
workforce_task_id	Yes	String	ID of a team labeling task.

Table 16-253 Query parameters

Parameter	Mandatory	Type	Description
locale	Yes	String	Language . Options: <ul style="list-style-type: none"> • zh-cn: Chinese • en-us: English (default value)

Request Parameters

Table 16-254 Request body parameters

Parameter	Mandatory	Type	Description
action	Yes	Integer	Acceptance action. Options: <ul style="list-style-type: none"> ● 0: All samples are passed. ● 1: All samples are rejected. ● 2: The acceptance is canceled. ● 3: The sample list of acceptance conflicts is obtained. ● 4: Only the single-accepted samples and unprocessed samples are passed. ● 5: Only the single-accepted samples are passed.
overwrite_last_result	No	Boolean	Whether to overwrite labeled data. Options: <ul style="list-style-type: none"> ● true: The labeled data is overwritten. ● false: The labeled data is not overwritten. (default value)

Response Parameters

Status code: 200

Table 16-255 Response body parameters

Parameter	Type	Description
sample_count	Integer	Total number of accepted samples
samples	Array of DescribeSampleResp objects	List of accepted samples

Table 16-256 DescribeSampleResp

Parameter	Type	Description
check_accept	Boolean	Whether the acceptance is passed, which is used for team labeling. Options: <ul style="list-style-type: none"> ● true: The acceptance is passed. ● false: The acceptance is not passed.
check_comment	String	Acceptance comment, which is used for team labeling.
check_score	String	Acceptance score, which is used for team labeling.
deletion_reasons	Array of strings	Reason for deleting a sample, which is used for healthcare.
hard_details	Map<String,HardDetail>	Difficult problem details, including description, causes, and suggestions of difficult problems.
labelers	Array of Worker objects	Labeling personnel list of sample allocation. The list records the team members receiving the samples, which is used for team labeling.
labels	Array of SampleLabel objects	List of sample labels
metadata	SampleMetadata object	Attribute key-value pair of the sample metadata
review_accept	Boolean	Whether to accept the review, which is used for team labeling. Options: <ul style="list-style-type: none"> ● true: The review is accepted. ● false: The review is rejected.
review_comment	String	Review comment, which is used for team labeling.
review_score	String	Review score, which is used for team labeling.
sample_data	Array of strings	List of sample data
sample_dir	String	Path for storing a sample
sample_id	String	Sample ID
sample_name	String	Sample name
sample_size	Long	Sample size or text length, in bytes

Parameter	Type	Description
sample_status	String	Sample status. Options: <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: unlabeled • __UNCHECK__: to be accepted • __ACCEPTED__: accepted • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: reviewed • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: sampling pending check • __WORKFORCE_SAMPLED_CHECKED__: sampling checked • __WORKFORCE_SAMPLED_ACCEPTED__: sampling accepted • __WORKFORCE_SAMPLED_REJECTED__: sampling rejected • __AUTO_ANNOTATION__: to be confirmed
sample_time	Long	Sample time, when OBS is last modified.
sample_type	Integer	Sample type. Options: <ul style="list-style-type: none"> • 0: image • 1: text • 2: audio • 4: table • 6: video • 9: free format
score	String	Comprehensive score, which is used for team labeling.
source	String	Source address of sample data
sub_sample_url	String	Subsample URL, which is used for healthcare.
worker_id	String	ID of a labeling team member, which is used for team labeling.

Table 16-257 HardDetail

Parameter	Type	Description
alo_name	String	Alias

Parameter	Type	Description
id	Integer	Reason ID
reason	String	Reason description
suggestion	String	Handling suggestion

Table 16-258 Worker

Parameter	Type	Description
create_time	Long	Worker creation time
description	String	Labeling team member description. The value contains 0 to 256 characters. Special characters (^!<>=&"') are not allowed.
email	String	Email address of a labeling team member
role	Integer	Role. Options: <ul style="list-style-type: none"> ● 0: marker ● 1: reviewer ● 2: team manager ● 3: dataset owner
status	Integer	Current login status of a labeled member. Options: <ul style="list-style-type: none"> ● 0: No invitation email is sent. ● 1: The invitation email is sent but the member has not logged in. ● 2: The member has logged in. ● 3: The member has been deleted.
update_time	Long	Worker update time
worker_id	String	ID of a labeling team member
workforce_id	String	ID of a labeling team

Table 16-259 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: <ul style="list-style-type: none"> ● human: manual labeling ● auto: auto labeling

Parameter	Type	Description
id	String	Label ID
name	String	Label name
property	SampleLabelProperty object	Attribute key-value pair of the sample label, such as the object shape and shape feature
score	Float	Confidence. The value ranges from 0 to 1 .
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-260 SampleLabelProperty

Parameter	Type	Description
@modelarts:content	String	Speech text content, which is a default attribute dedicated to the speech label (including the speech content and speech start and end points)
@modelarts:end_index	Integer	End position of the text, which is a default attribute dedicated to the named entity label. The end position does not include the character corresponding to the value of end_index . Examples: <ul style="list-style-type: none"> ● If the text is "Barack Hussein Obama II (born on August 4, 1961) is an attorney and politician.", the start_index and end_index of Barack Hussein Obama II are 0 and 23, respectively. ● If the text is "Hope is the thing with feathers", start_index and end_index of Hope are 0 and 4, respectively.

Parameter	Type	Description
@modelarts:end_time	String	Speech end time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:feature	Object	<p>Shape feature, which is a default attribute dedicated to the object detection label, with type of List. The upper left corner of an image is used as the coordinate origin [0, 0]. Each coordinate point is represented by [x, y]. <i>x</i> indicates the horizontal coordinate, and <i>y</i> indicates the vertical coordinate (both <i>x</i> and <i>y</i> are greater than or equal to 0). The format of each shape is as follows:</p> <ul style="list-style-type: none"> • bndbox: consists of two points, for example, [[0,10],[50,95]]. The upper left vertex of the rectangle is the first point, and the lower right vertex is the second point. That is, the <i>x</i>-coordinate of the first point must be less than the <i>x</i>-coordinate of the second point, and the <i>y</i>-coordinate of the first point must be less than the <i>y</i>-coordinate of the second point. • polygon: consists of multiple points that are connected in sequence to form a polygon, for example, [[0,100],[50,95],[10,60],[500,400]]. • circle: consists of the center and radius, for example, [[100,100],[50]]. • line: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • dashed: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • point: consists of one point, for example, [[0,100]]. • polyline: consists of multiple points, for example, [[0,100],[50,95],[10,60],[500,400]].
@modelarts:from	String	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Parameter	Type	Description
@modelarts:hard	String	Whether the sample is labeled as a hard example, which is a default attribute. Options: <ul style="list-style-type: none"> • 0/false: The label is not a hard example. • 1/true: The label is a hard example.
@modelarts:hard_coefficient	String	Coefficient of difficulty of each label level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	String	<p>Reasons why the sample is a hard example, which is a default attribute. Use a hyphen (-) to separate every two hard example reason IDs, for example, 3-20-21-19. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on flplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:shape	String	Object shape, which is a default attribute dedicated to the object detection label and is left empty by default. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dashed line • point: point • polyline: polyline
@modelarts:speech_source	String	Speech source, which is a default attribute dedicated to the speech start/end point label and can be set to a speaker or narrator
@modelarts:start_index	Integer	Start position of the text, which is a default attribute dedicated to the named entity label. The start value begins from 0, including the character corresponding to the value of start_index .
@modelarts:start_time	String	Speech start time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:triplet_label	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 16-261 SampleMetadata

Parameter	Type	Description
@modelarts:import_origin	Integer	Sample source, which is a default attribute.
@modelarts:hard	Double	Whether the sample is labeled as a hard example, which is a default attribute. Options: <ul style="list-style-type: none"> • 0: The label is not a hard example. • 1: The label is a hard example.
@modelarts:hard_coefficient	Double	Coefficient of difficulty of each sample level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	<p>ID of a hard example reason, which is a default attribute. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on fliplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:size	Array of objects	image size, including width, height, and depth. The type is List[/topic/body/section/table/tgroup/tbody/row/entry/p/br. {""}] (br]. In the list, the first number indicates the width (pixels), the second number indicates the height (pixels), and the third number indicates the depth (the depth can be left blank and the default value is 3). For example, [100,200,3] and [100,200] are both valid. Note: This parameter is mandatory only when the sample label list contains the object detection label.

Request Example

The following shows an example indicating that all tasks are accepted.

```
{
  "action" : 0
}
```

Response Example

Status code: 200

OK

```
{}
```

Status Code

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Code

For details, see [Error Codes](#).

16.1.35 Querying Details About Team Labeling Task Statistics

Function

This API is used to query details about team labeling task statistics.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/data-annotations/stats

Table 16-262 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_task_id	Yes	String	ID of a team labeling task.

Table 16-263 Query Parameters

Parameter	Mandatory	Type	Description
sample_state	No	String	<p>Statistics on the specified sample state. The options are as follows:</p> <ul style="list-style-type: none"> • <code>__ALL__</code>: labeled • <code>__NONE__</code>: not marked • <code>__UNCHECK__</code>: to be accepted • <code>__ACCEPTED__</code>: The acceptance is passed. • <code>__REJECTED__</code>: rejected • <code>__UNREVIEWED__</code>: to be reviewed • <code>__REVIEWED__</code>: approved • <code>__WORKFORCE_SAMPLED__</code>: sampled • <code>__WORKFORCE_SAMPLED_UNCHECK__</code>: Sampling is to be accepted. • <code>__WORKFORCE_SAMPLED_CHECKED__</code>: Sampling has been accepted. • <code>__WORKFORCE_SAMPLED_ACCEPTED__</code>: The sampling is passed. • <code>__WORKFORCE_SAMPLED_REJECTED__</code>: The sampling has been rejected. • <code>__AUTO_ANNOTATION__</code>: to be confirmed

Request Parameters

None

Response Parameters

Status code: 200

Table 16-264 Response body parameters

Parameter	Type	Description
data_path	String	Path for storing data of a dataset.

Parameter	Type	Description
data_splitting_enable	Boolean	Whether the dataset can be split into training set and validation set based on the sample labeling statistics. Options: <ul style="list-style-type: none"> true: The dataset can be split into training set and validation set. false: The dataset cannot be split into training set and validation set.
grouped_label_stats	Map<String,Array<LabelStats>>	Label statistics grouped by labeling type.
hard_detail_stats	Map<String,PairOfIntAndHardDetail>	Statistics on hard example reasons. The type is Map<Integer, Pair<Integer, HardDetail>> . The key of Map indicates the ID of the hard example reason, the key of Pair indicates the number of times that the hard example reason occurs, and the value of Pair indicates the hard example reason.
key_sample_stats	Map<String,Integer>	Statistics on hard examples.
label_stats	Array of LabelStats objects	List of label statistics.
metadata_stats	Map<String,Object>	Statistics on sample metadata, in JSON format.
sample_stats	Map<String,Integer>	Statistics on sample status.

Table 16-265 LabelStats

Parameter	Type	Description
attributes	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.
count	Integer	Number of labels.
name	String	Label name.
property	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.
sample_count	Integer	Number of samples containing the label.

Parameter	Type	Description
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-266 PairOfIntAndHardDetail

Parameter	Type	Description
key	Integer	Number of times that a hard example reason occurs.
value	HardDetail object	Reason for a hard example.

Table 16-267 HardDetail

Parameter	Type	Description
alo_name	String	Alias.
id	Integer	Reason ID.
reason	String	Reason description.
suggestion	String	Handling suggestion.

Table 16-268 LabelAttribute

Parameter	Type	Description
default_value	String	Default value of a label attribute.
id	String	Label attribute ID. You can query the tag by invoking the tag list.

Parameter	Type	Description
name	String	Label attribute name. The value contains a maximum of 64 characters and cannot contain the character. <>=&''.
type	String	Label attribute type. Options: <ul style="list-style-type: none"> ● text: text ● select: single-choice drop-down list
values	Array of LabelAttributeValue objects	List of label attribute values.

Table 16-269 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

Table 16-270 LabelProperty

Parameter	Type	Description
@modelarts:color	String	Default attribute: Label color, which is a hexadecimal code of the color. By default, this parameter is left blank. Example: #FFFFFF0 .
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> ● bndbox: rectangle ● polygon: polygon ● circle: circle ● line: straight line ● dashed: dotted line ● point: point ● polyline: polyline
@modelarts:from_type	String	Default attribute: Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Parameter	Type	Description
@modelarts:rename_to	String	Default attribute: The new name of the label.
@modelarts:shortcut	String	Default attribute: Label shortcut key. By default, this parameter is left blank. For example: D .
@modelarts:tail_entity_type	String	Default attribute: Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Example Requests

Querying Statistics on Unapproved Samples of a Team Labeling Task

```
GET https://{endpoint}/v2/{project_id}/datasets/WxCREuCKBSAlQr9xrde/workforce-tasks/tY330MHxV9dqIPVaTRM/data-annotations/stats?sample_state=__unreviewed__
```

Example Responses

Status code: 200

OK

```
{
  "label_stats": [ {
    "name": "Rabbits",
    "type": 1,
    "property": {
      "@modelarts:color": "#3399ff"
    },
    "count": 0,
    "sample_count": 0
  }, {
    "name": "Bees",
    "type": 1,
    "property": {
      "@modelarts:color": "#3399ff"
    },
    "count": 1,
    "sample_count": 1
  } ],
  "sample_stats": {
    "un_annotation": 308,
    "total": 309,
    "rejected": 0,
    "unreviewed": 1,
    "accepted": 0,
    "auto_annotation": 0,
    "uncheck": 0
  },
  "key_sample_stats": {
    "total": 309,
    "non_key_sample": 309,
    "key_sample": 0
  },
  "metadata_stats": { },
}
```

```
"data_splitting_enable" : false
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.36 Querying Details About the Progress of a Team Labeling Task Member

Function

This API is used to query details about the progress of a team labeling task member.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/metrics

Table 16-271 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_task_id	Yes	String	ID of a team labeling task.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-272 Response body parameters

Parameter	Type	Description
sample_stats	Map<String,Map<String,Integer>>	Statistics on team labeling task members.

Example Requests

Querying Details About the Progress of a Team Labeling Task Member

GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/metrics

Example Responses

Status code: 200

OK

```
{
  "sample_stats": {
    "xxx@xxx.com": {
      "un_annotation": 51,
      "rejected": 0,
      "unreviewed": 0,
      "accepted": 0,
      "auto_annotation": 0,
      "uncheck": 0
    }
  }
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.37 Querying the Team Labeling Task List by a Team Member

Function

This API is used to query the team labeling task list by a team member.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/workforces/worker-tasks

Table 16-273 Path Parameters

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

Table 16-274 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records returned on each page. The value ranges from 1 to 100. The default value is 10 .
offset	No	Integer	Start page of the paging list. The default value is 0 .
order	No	String	Sorting method. Options: <ul style="list-style-type: none"> • asc: ascending order • desc: descending order (default value)
search_content	No	String	Fuzzy search keyword. By default, this parameter is left blank.

Parameter	Mandatory	Type	Description
sort_by	No	String	Sorting mode of the query. Options: <ul style="list-style-type: none"> • create_time: Sort by creation time. (Default value) • workforce_task_name: Sort by task name.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-275 Response body parameters

Parameter	Type	Description
count	Integer	Total number of team labeling tasks.
worker_tasks	Array of WorkerTask objects	Team labeling task list queried by page.

Table 16-276 WorkerTask

Parameter	Type	Description
create_time	Long	Time when a labeling team member's task is created.
dataset_id	String	ID of a dataset associated with a labeling team member's task.
dataset_type	Integer	Labeling type of a team member's task.
email	String	Email address of a labeling team member.
email_status	Integer	Email notification status of a labeling team member's labeling task. Options: <ul style="list-style-type: none"> • 0: The email has not been sent. • 1: The email format is incorrect. • 2: The email address is unreachable. • 3: The email has been sent.

Parameter	Type	Description
last_notify_time	Long	Timestamp of the latest notification email sent to a labeling team member.
pass_rate	Double	Pass rate of task acceptance review for a labeling team member.
role	Integer	Role of a labeling team member.
sample_stats	SampleStats object	Sample statistics of a labeling team member's task.
score	Double	Average acceptance score of labeling team members' task samples.
task_id	String	Team labeling task ID associated with a member's task.
task_status	Integer	Task status of a labeling team member. Options: <ul style="list-style-type: none"> ● 6: created ● 0: starting ● 1: running ● 2: under acceptance ● 3: approved, indicating the team labeling task is complete ● 4: rejected, indicating that the task needs to be labeled and reviewed again
update_time	Long	Time when a labeling team member's task is updated.
worker_id	String	ID of a labeling team member.
workforce_task_name	String	Team labeling task name associated with a member's task.

Table 16-277 SampleStats

Parameter	Type	Description
accepted_sample_count	Integer	Number of samples accepted by the owner.
auto_annotation_sample_count	Integer	Number of samples to be confirmed after intelligent labeling.
deleted_sample_count	Integer	Number of deleted samples.

Parameter	Type	Description
rejected_sample_count	Integer	Number of samples that failed to pass the owner acceptance.
sampled_sample_count	Integer	Number of samples that are to be accepted by the owner and sampled.
total_sample_count	Integer	Total number of samples.
unannotated_sample_count	Integer	Number of unlabeled samples.
uncheck_sample_count	Integer	Number of samples that have been approved by the reviewer and are to be accepted by the owner.
unreviewed_sample_count	Integer	Number of samples that have been labeled by the labeler but have not been reviewed by the reviewer.

Example Requests

Querying the Team Labeling Task List by a Team Member

```
GET https://{endpoint}/v2/{project_id}/workforces/worker-tasks?
offset=0&limit=10&sort_by=create_time&order=desc&filePreview=false
```

Example Responses

Status code: 200

OK

```
{
  "count" : 2,
  "worker_tasks" : [ {
    "email" : "xxx@xxx.com",
    "worker_id" : "8c15ad080d3eabad14037b4eb00d6a6f",
    "role" : 0,
    "task_id" : "tY330MHxV9dqIPVaTRM",
    "workforce_task_name" : "task-cd60",
    "dataset_id" : "WxCREuCKBSALQr9xrde",
    "sample_stats" : {
      "total_sample_count" : 309,
      "unannotated_sample_count" : 308,
      "unreviewed_sample_count" : 0,
      "uncheck_sample_count" : 1,
      "sampled_sample_count" : 0,
      "rejected_sample_count" : 0,
      "accepted_sample_count" : 0,
      "auto_annotation_sample_count" : 0
    },
    "create_time" : 1606224714358,
    "update_time" : 1606224878490,
    "email_status" : 3,
    "last_notify_time" : 0,
    "dataset_type" : 1,
    "task_status" : 1
  }
}
```



```
}, {  
  "email" : "xxx@xxx.com",  
  "worker_id" : "8c15ad080d3eabad14037b4eb00d6a6f",  
  "role" : 0,  
  "task_id" : "MJVjCQDMso95a8dvUm4",  
  "workforce_task_name" : "task-2720",  
  "dataset_id" : "OY82gjEHxt9w1efgrhS",  
  "sample_stats" : {  
    "total_sample_count" : 50005,  
    "unannotated_sample_count" : 50005,  
    "unreviewed_sample_count" : 0,  
    "uncheck_sample_count" : 0,  
    "sampled_sample_count" : 0,  
    "rejected_sample_count" : 0,  
    "accepted_sample_count" : 0,  
    "auto_annotation_sample_count" : 0  
  },  
  "create_time" : 1605949737134,  
  "update_time" : 1605949737134,  
  "email_status" : 3,  
  "last_notify_time" : 0,  
  "dataset_type" : 0,  
  "task_status" : 2  
}]  
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.38 Submitting Sample Review Comments of an Acceptance Task

Function

This API is used to submit sample review comments of an acceptance task.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/acceptance/batch-comment

Table 16-278 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_task_id	Yes	String	ID of a labeling task.

Request Parameters

Table 16-279 Request body parameters

Parameter	Mandatory	Type	Description
comments	Yes	Array of SampleComment objects	Review comment list.

Table 16-280 SampleComment

Parameter	Mandatory	Type	Description
accept	Yes	Boolean	Whether the submitted sample review comments are passed. Options: <ul style="list-style-type: none"> true: passed false: not passed
comment	No	String	Review comment, which contains 0 to 256 characters, excluding special characters (!<>=&"').
sample_id	No	String	Sample ID, which can be obtained by invoking the API for querying the sample list.

Parameter	Mandatory	Type	Description
score	No	String	Review score, whose value can be A , B , C , or D , in descending order.
worker_id	No	String	Annotation member ID, which can be obtained by invoking the annotation member list interface.

Response Parameters

None

Example Requests

The following is an example of how to submit sample review comments of an acceptance task. **accept** has been set to **true** and **score** has been set to **A**.

```
{
  "comments": [ {
    "worker_id": "8c15ad080d3eabad14037b4eb00d6a6f",
    "sample_id": "09ac49d5b06385849c8769fdcf0f6d60",
    "accept": true,
    "comment": "",
    "score": "A"
  } ]
}
```

Example Responses

Status code: 200

OK

```
{}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.39 Reviewing Team Labeling Results

Function

This API is used to review team labeling results.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/data-annotations/review

Table 16-281 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_task_id	Yes	String	ID of a labeling task.

Request Parameters

Table 16-282 Request body parameters

Parameter	Mandatory	Type	Description
comments	No	Array of SampleComment objects	Review comment list.

Table 16-283 SampleComment

Parameter	Mandatory	Type	Description
accept	Yes	Boolean	Whether the submitted sample review comments are passed. Options: <ul style="list-style-type: none"> • true: passed • false: not passed
comment	No	String	Review comment, which contains 0 to 256 characters, excluding special characters (!<>=&""').
sample_id	No	String	Sample ID, which can be obtained by invoking the API for querying the sample list.
score	No	String	Review score, whose value can be A , B , C , or D , in descending order.
worker_id	No	String	Annotation member ID, which can be obtained by invoking the annotation member list interface.

Response Parameters

None

Example Requests

The following is an example of how to review team labeling results. **accept** has been set to **true** and **score** has been set to **A**.

```
{
  "comments": [ {
    "worker_id": "8c15ad080d3eabad14037b4eb00d6a6f",
    "sample_id": "0d43f9811d3808a3146c673257d4a1dbhh",
    "accept": true,
    "comment": "",
    "score": "A"
  } ]
}
```

Example Responses

Status code: 200

OK

```
{}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.40 Updating Labels of Team Labeling Samples in Batches

Function

This API is used to update labels of team labeling samples in batches.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/data-annotations/samples

Table 16-284 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_task_id	Yes	String	ID of a labeling task.

Request Parameters

Table 16-285 Request body parameters

Parameter	Mandatory	Type	Description
email	No	String	Email address of a labeling team member.
samples	No	Array of SampleLabels objects	Updated sample list.

Table 16-286 SampleLabels

Parameter	Mandatory	Type	Description
labels	No	Array of SampleLabels objects	Sample label list. If this parameter is left blank, all sample labels are deleted.
metadata	No	SampleMetadata object	Key-value pair of the sample metadata attribute.
sample_id	No	String	Sample ID.
sample_type	No	Integer	Sample type. Options: <ul style="list-style-type: none"> • 0: image • 1: text • 2: speech • 4: table • 6: video • 9: custom format
sample_usage	No	String	Sample usage. Options: <ul style="list-style-type: none"> • TRAIN: training • EVAL: evaluation • TEST: test • INFERENCE: inference
source	No	String	Source address of sample data, which is obtained by invoking the sample list interface.
worker_id	No	String	ID of a labeling team member.

Table 16-287 SampleLabel

Parameter	Mandatory	Type	Description
annotated_by	No	String	Video labeling method, which is used to distinguish whether a video is labeled manually or automatically. Options: <ul style="list-style-type: none"> • human: manual labeling • auto: automatic labeling
id	No	String	Label ID.
name	No	String	Label name.
property	No	SampleLabel Property object	Attribute key-value pair of the sample label, such as the object shape and shape feature.
score	No	Float	Confidence. The value range is [0,1].
type	No	Integer	Label type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet relationship • 103: text triplet entity • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 600: video labeling

Table 16-288 SampleLabelProperty

Parameter	Mandatory	Type	Description
@modelarts:content	No	String	Speech text content, which is a default attribute dedicated to the speech label (including the speech content and speech start and end points).

Parameter	Mandatory	Type	Description
@modelarts:end_index	No	Integer	<p>End position of the text, which is a default attribute dedicated to the named entity label. The end position does not include the character corresponding to the value of end_index.</p> <p>Example:</p> <ul style="list-style-type: none"> If the text is "Barack Hussein Obama II (born August 4, 1961) is an attorney and politician.", start_index and end_index of Barack Hussein Obama II are 0 and 23, respectively. If the text is "Hope is the thing with feathers", start_index and end_index of Hope are 0 and 4, respectively.
@modelarts:end_time	No	String	<p>Speech end time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)</p>

Parameter	Mandatory	Type	Description
@modelarts:feature	No	Object	<p>Shape feature, which is a default attribute dedicated to the object detection label, with type of List. The upper left corner of the image is used as the coordinate origin [0, 0]. Each coordinate point is represented by [x, y], where x indicates the horizontal coordinate and y indicates the vertical coordinate (both x and y are >=0). The format of each shape is as follows:</p> <ul style="list-style-type: none"> • bndbox consists of two points, for example, [[0,10],[50,95]]. The upper left vertex of the rectangle is the first point, and the lower right vertex is the second point. That is, the x-coordinate of the first point must be less than the x-coordinate of the second point, and the y-coordinate of the first point must be less than the y-coordinate of the second point. • polygon: consists of multiple points that are connected in sequence to form a polygon, for example, [[0,100],[50,95],[10,60],[500,400]]. • circle: consists of the center and radius, for example, [[100,100],[50]]. • line: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • dashed: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • point: consists of one point, for example, [[0,100]]. • polyline: consists of multiple points, for example, [[0,100],[50,95],[10,60],[500,400]].
@modelarts:from	No	String	ID of the head entity in the triplet relationship label, which is a default attribute dedicated to the triplet relationship label.
@modelarts:hard	No	String	Sample labeled as a hard sample or not, which is a default attribute. Options: <ul style="list-style-type: none"> • 0/false: not a hard example • 1/true: hard example
@modelarts:hard_coefficient	No	String	Coefficient of difficulty of each label level, which is a default attribute. The value range is [0,1] .

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	String	<p>Reasons that the sample is a hard sample, which is a default attribute. Use a hyphen (-) to separate every two hard sample reason IDs, for example, 3-20-21-19.</p> <p>Options:</p> <ul style="list-style-type: none"> ● 0: No target objects are identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data enhancement result based on

Parameter	Mandatory	Type	Description
			<p>GaussianBlur is inconsistent with the prediction result of the original image.</p> <ul style="list-style-type: none"> ● 20: The data enhancement result based on fliplr is inconsistent with the prediction result of the original image. ● 21: The data enhancement result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data enhancement result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data enhancement result based on scale is inconsistent with the prediction result of the original image. ● 24: The data enhancement result based on translate is inconsistent with the prediction result of the original image. ● 25: The data enhancement result based on shear is inconsistent with the prediction result of the original image. ● 26: The data enhancement result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data enhancement result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data enhancement result based on add is inconsistent with the prediction result of the original image.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● 29: The data enhancement result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.
@modelarts:shape	No	String	<p>Object shape, which is a default attribute dedicated to the object detection label and is left empty by default.</p> <p>Options:</p> <ul style="list-style-type: none"> ● bndbox: rectangle ● polygon: polygon ● circle: circle ● line: straight line ● dashed: dotted line ● point: point ● polyline: polyline
@modelarts:speech_source	No	String	Speech source, which is a default attribute dedicated to the speech start/end point label and can be set to a speaker or narrator.
@modelarts:start_index	No	Integer	Start position of the text, which is a default attribute dedicated to the named entity label. The start value begins from 0, including the character corresponding to the value of start_index .
@modelarts:start_time	No	String	Speech start time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS . (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:tail_id	No	String	ID of the tail entity in the triplet relationship label, which is a default attribute dedicated to the triplet relationship label.

Table 16-289 SampleMetadata

Parameter	Mandatory	Type	Description
@modelarts:import_origin	No	Integer	Sample source, which is a built-in attribute.
@modelarts:hard	No	Double	Whether the sample is labeled as a hard sample, which is a default attribute. Options: <ul style="list-style-type: none"> • 0: non-hard sample • 1: hard sample
@modelarts:hard_coefficient	No	Double	Coefficient of difficulty of each sample level, which is a default attribute. The value range is [0,1] .

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	Array of integers	<p>ID of a hard sample reason, which is a default attribute. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data enhancement result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data enhancement result based on fliplr is

Parameter	Mandatory	Type	Description
			<p>inconsistent with the prediction result of the original image.</p> <ul style="list-style-type: none"> ● 21: The data enhancement result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data enhancement result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data enhancement result based on scale is inconsistent with the prediction result of the original image. ● 24: The data enhancement result based on translate is inconsistent with the prediction result of the original image. ● 25: The data enhancement result based on shear is inconsistent with the prediction result of the original image. ● 26: The data enhancement result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data enhancement result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data enhancement result based on add is inconsistent with the prediction result of the original image. ● 29: The data enhancement result based on invert is inconsistent with the prediction result of the original image.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> 30: The data is predicted to be abnormal.
@modelarts:size	No	Array of objects	Image size (width, height, and depth of the image), which is a default attribute, with type of List<Integer> . In the list, the first number indicates the width (pixels), the second number indicates the height (pixels), and the third number indicates the depth (the depth can be left blank and the default value is 3). For example, [100,200,3] and [100,200] are both valid. Note: This parameter is mandatory only when the sample label list contains the object detection label.

Response Parameters

Status code: 200

Table 16-290 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
results	Array of BatchResponse objects	Response list for updating sample labels in batches.
success	Boolean	Whether the operation is successful. Options: <ul style="list-style-type: none"> true: successful false: failed

Table 16-291 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Parameter	Type	Description
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> • true: The operation is successful. • false: The operation is failed.

Example Requests

Updating Labels of Team Labeling Samples in Batches

```
{
  "samples": [ {
    "sample_id": "0a0939d6d3c48a3d2a2619245943ac21",
    "worker_id": "8c15ad080d3eabad14037b4eb00d6a6f",
    "labels": [ {
      "name": "tulips"
    } ]
  }, {
    "sample_id": "0e1b5a16a5a577ee53aeb34278a4b3e7",
    "worker_id": "8c15ad080d3eabad14037b4eb00d6a6f",
    "labels": [ {
      "name": "tulips"
    } ]
  } ]
}
```

Example Responses

Status code: 200

OK

```
{
  "success": true
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.41 Querying the Labeling Team List

Function

This API is used to query the labeling team list.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/workforces

Table 16-292 Path Parameters

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

Table 16-293 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records returned on each page. The value ranges from 1 to 100. The default value is 10 .
offset	No	Integer	Start page of the paging list. The default value is 0 .
order	No	String	Sorting sequence of the query. Options: <ul style="list-style-type: none"> • asc: ascending order • desc: descending order (default value)
search_content	No	String	Fuzzy search keyword. By default, this parameter is left blank.

Parameter	Mandatory	Type	Description
sort_by	No	String	Sorting mode of the query. Options: <ul style="list-style-type: none"> • create_time: Sort by creation time. (Default value) • workforce_name: Sort by labeling team name.
workforce_task_id	No	String	ID of a team labeling task.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-294 Response body parameters

Parameter	Type	Description
total_number	Integer	Total number of labeling teams.
workforces	Array of Workforce objects	Labeling team list queried by page.

Table 16-295 Workforce

Parameter	Type	Description
create_time	Long	Time when a labeling team is created.
description	String	Description of a labeling team.
update_time	Long	Time when a labeling team is updated.
worker_count	Integer	Total number of labeling team members.
workforce_id	String	ID of a labeling team.
workforce_name	String	Name of a labeling team.
workspace_id	String	Workspace ID. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.

Example Requests

Querying the Labeling Team List

```
GET https://{endpoint}/v2/{project_id}/workforces
```

Example Responses

Status code: 200

OK

```
{
  "total_number" : 2,
  "workforces" : [ {
    "workforce_id" : "ZUH8gqkjuaib8pxkDdz",
    "workforce_name" : "team-123",
    "description" : "my team",
    "worker_count" : 0,
    "create_time" : 1606354772548,
    "update_time" : 1606354772548
  }, {
    "workforce_id" : "3Ry04NsqvEybuWYLDvC",
    "workforce_name" : "team-170a",
    "description" : "",
    "worker_count" : 1,
    "create_time" : 1604644946891,
    "update_time" : 1606238678626
  } ]
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.42 Creating a Labeling Team

Function

This API is used to create a labeling team.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/workforces

Table 16-296 Path Parameters

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

Request Parameters

Table 16-297 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	Labeling team description. The value contains 0 to 256 characters and does not support the following special characters: ^!<>=&""
workforce_name	Yes	String	Labeling team name. The value contains 1 to 64 characters, including only letters, digits, underscores (_), and hyphens (-).

Response Parameters

Status code: 201

Table 16-298 Response body parameters

Parameter	Type	Description
workforce_id	String	ID of a labeling team.

Example Requests

The following is an example of how to create a labeling team. The labeling team name has been set to **team-123**.

```
{  
  "workforce_name" : "team-123",  
  "description" : "my team"  
}
```

Example Responses

Status code: 201

Created

```
{  
  "workforce_id" : "ZUH8gqkjuuib8pxkDdz"  
}
```

Status Codes

Status Code	Description
201	Created
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.43 Querying Details About a Labeling Team

Function

This API is used to query the details about a labeling team.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/workforces/{workforce_id}

Table 16-299 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_id	Yes	String	ID of a labeling team.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-300 Response body parameters

Parameter	Type	Description
create_time	Long	Time when a labeling team is created.
description	String	Description of a labeling team.
update_time	Long	Time when a labeling team is updated.
worker_count	Integer	Total number of labeling team members.
workforce_id	String	ID of a labeling team.
workforce_name	String	Name of a labeling team.
workspace_id	String	Workspace ID. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.

Example Requests

Querying Details About a Labeling Team

```
GET https://{endpoint}/v2/{project_id}/workforces/{workforce_id}
```

Example Responses

Status code: 200

OK

```
{
  "workforce_id" : "gyb71aAvkLc5IhEY2dv",
```

```

"workforce_name" : "team-aed7",
"description" : "",
"worker_count" : 2,
"create_time" : 1575104620882,
"update_time" : 1575104620882
}

```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.44 Updating a Labeling Team

Function

This API is used to update a labeling team.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v2/{project_id}/workforces/{workforce_id}

Table 16-301 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_id	Yes	String	ID of a labeling team.

Request Parameters

Table 16-302 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	Labeling team description. The value contains 0 to 256 characters and does not support the following special characters: ^!<>=&""
workforce_name	No	String	Name of a labeling team. The value contains 1 to 64 characters and only letters, digits, hyphens (-), and underscores (_) are allowed.

Response Parameters

None

Example Requests

Updating a Labeling Team

```
{  
  "description" : "my team"  
}
```

Example Responses

Status code: 200

OK

```
{}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.45 Deleting a Labeling Team

Function

This API is used to delete a labeling team.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v2/{project_id}/workforces/{workforce_id}

Table 16-303 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_id	Yes	String	ID of a labeling team.

Request Parameters

None

Response Parameters

Status code: 204

Table 16-304 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
results	Array of BatchResponse objects	Result of deleting team members in batches.

Parameter	Type	Description
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> • true: The operation is successful. • false: The operation is failed.

Table 16-305 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> • true: The operation is successful. • false: The operation is failed.

Example Requests

Deleting a Labeling Team

```
DELETE https://{endpoint}/v2/{project_id}/workforces/{workforce_id}
```

Example Responses

Status code: 204

No Content

```
{}
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden

Error Codes

See [Error Codes](#).

16.1.46 Sending an Email to a Labeling Team Member

Function

This API is used to send an email to a labeling team member.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/notify

Table 16-306 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_task_id	Yes	String	ID of a team labeling task.

Request Parameters

Table 16-307 Request body parameters

Parameter	Mandatory	Type	Description
emails	Yes	Array of strings	Email list of a labeling team member.

Response Parameters

Status code: 200

Table 16-308 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.
results	Array of BatchResponse objects	Result of sending an email to a labeling team member.
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> • true: The operation is successful. • false: The operation is failed.

Table 16-309 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> • true: The operation is successful. • false: The operation is failed.

Example Requests

Sending an Email to a Labeling Team Member

```
{
  "emails": [ "xxx@xxx.com", "xxx@xxx.com" ]
}
```

Example Responses

Status code: 200

OK

```
{
  "success": true
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized

Status Code	Description
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.47 Querying the List of All Labeling Team Members

Function

This API is used to query the list of all labeling team members.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/workforces/workers

Table 16-310 Path Parameters

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

Table 16-311 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records returned on each page. The value ranges from 1 to 100. The default value is 10 .
offset	No	Integer	Start page of the paging list. The default value is 0 .

Parameter	Mandatory	Type	Description
order	No	String	Sorting sequence of the query. Options: <ul style="list-style-type: none"> • asc: ascending order • desc: descending order (default value)
role	No	Integer	Filtering query based on the member role. Options: <ul style="list-style-type: none"> • 0: labeling personnel (default value) • 1: reviewer • 2: team administrator
sort_by	No	String	Sorting mode of the query. Options: <ul style="list-style-type: none"> • create_time: Sort by creation time. (Default value) • email: Sort by email.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-312 Response body parameters

Parameter	Type	Description
total_number	Integer	Total number of labeling team members.
workers	Array of Worker objects	Labeling team members list queried by page.

Table 16-313 Worker

Parameter	Type	Description
create_time	Long	Creation time.

Parameter	Type	Description
description	String	Labeling team member description. The value contains 0 to 256 characters and does not support the following special characters: ^! <>=&"
email	String	Email address of a labeling team member.
role	Integer	Role. Options: <ul style="list-style-type: none"> ● 0: labeling personnel ● 1: reviewer ● 2: team administrator ● 3: dataset owner
status	Integer	Current login status of a labeling team member. Options: <ul style="list-style-type: none"> ● 0: The invitation email has not been sent. ● 1: The invitation email has been sent but the user has not logged in. ● 2: The user has logged in. ● 3: The labeling team member has been deleted.
update_time	Long	Update time.
worker_id	String	ID of a labeling team member.
workforce_id	String	ID of a labeling team.

Example Requests

Querying All Labeling Team Administrators

GET https://{endpoint}/v2/{project_id}/workforces/workers??role=2

Example Responses

Status code: 200

OK

```
{
  "total_number" : 2,
  "workers" : [ {
    "email" : "xxx@xxx.com",
    "worker_id" : "df40e4afcb793d13f01f6c9022341e6f",
    "workforce_id" : "feSUo5NUIUnQAQNNTiS",
    "status" : 0,
    "role" : 2,
    "description" : "",
    "create_time" : 1595927749772,
    "update_time" : 1595927749772
  }, {
    "email" : "xxx@xxx.com",
```

```

"worker_id" : "27906df1d06c0827b7c24f761d618541",
"workforce_id" : "XiL5RcHmxyIt3aYIOtl",
"status" : 0,
"role" : 2,
"description" : "",
"create_time" : 1590027298717,
"update_time" : 1590027298717
} ]
}

```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.48 Querying the List of Labeling Team Members

Function

This API is used to query the list of labeling team members.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/workforces/{workforce_id}/workers

Table 16-314 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_id	Yes	String	ID of a labeling team.

Table 16-315 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records returned on each page. The value ranges from 1 to 100. The default value is 10 .
offset	No	Integer	Start page of the paging list. The default value is 0 .
order	No	String	Sorting sequence. Options: <ul style="list-style-type: none"> • asc: ascending order • desc: descending order (default value)
sort_by	No	String	Sorting mode of the query. Options: <ul style="list-style-type: none"> • create_time: Sort by creation time. (Default value) • email: Sort by email.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-316 Response body parameters

Parameter	Type	Description
total_number	Integer	Total number of labeling team members.
workers	Array of Worker objects	Labeling team members list queried by page.

Table 16-317 Worker

Parameter	Type	Description
create_time	Long	Creation time.

Parameter	Type	Description
description	String	Labeling team member description. The value contains 0 to 256 characters and does not support the following special characters: ^! <>=&"
email	String	Email address of a labeling team member.
role	Integer	Role. Options: <ul style="list-style-type: none"> ● 0: labeling personnel ● 1: reviewer ● 2: team administrator ● 3: dataset owner
status	Integer	Current login status of a labeling team member. Options: <ul style="list-style-type: none"> ● 0: The invitation email has not been sent. ● 1: The invitation email has been sent but the user has not logged in. ● 2: The user has logged in. ● 3: The labeling team member has been deleted.
update_time	Long	Update time.
worker_id	String	ID of a labeling team member.
workforce_id	String	ID of a labeling team.

Example Requests

Querying the List of Labeling Team Members

GET https://{endpoint}/v2/{project_id}/workforces/{workforce_id}/workers

Example Responses

Status code: 200

OK

```
{
  "total_number" : 3,
  "workers" : [ {
    "email" : "xxx@xxx.com",
    "worker_id" : "b1e4054407ecb36a7bcde70f52ba37f2",
    "workforce_id" : "gyb7IaAvkLc5IhEY2dv",
    "status" : 0,
    "role" : 2,
    "description" : "",
    "create_time" : 1606356324223,
    "update_time" : 1606356324223
  }, {
    "email" : "xxx@xxx.com",
```

```
"worker_id" : "8c15ad080d3eabad14037b4eb00d6a6f",  
"workforce_id" : "gyb7IaAvkLc5IhEY2dv",  
"status" : 0,  
"role" : 0,  
"description" : "",  
"create_time" : 1591783804629,  
"update_time" : 1591783804629  
}, {  
"email" : "xxx@xxx.com",  
"worker_id" : "2880f38d660dd68ca6ab578b5a1d9558",  
"workforce_id" : "gyb7IaAvkLc5IhEY2dv",  
"status" : 0,  
"role" : 0,  
"description" : "",  
"create_time" : 1575104629439,  
"update_time" : 1575104629439  
}]  
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.49 Creating a Labeling Team Member

Function

This API is used to create a labeling team member.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/workforces/{workforce_id}/workers

Table 16-318 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_id	Yes	String	ID of a labeling team.

Request Parameters

Table 16-319 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	Member description. The description contains 0 to 256 characters and does not support the following special characters: ^!<>=&''
emails	Yes	String	Email address of a labeling team member.
role	Yes	Integer	Member role. Options: <ul style="list-style-type: none"> • 0: labeling personnel • 1: reviewer • 2: team administrator

Response Parameters

None

Example Requests

The following is an example of how to create a labeling team member. The member role has been set to **2**, which is the team administrator.

```
{
  "emails": "xxx@xxx.com",
  "description": "",
  "role": "2"
}
```

Example Responses

Status code: 201

Created

{}

Status Codes

Status Code	Description
201	Created
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.50 Deleting Labeling Team Members in Batches

Function

This API is used to delete labeling team members in batches.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/workforces/{workforce_id}/workers/batch-delete

Table 16-320 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
workforce_id	Yes	String	ID of a labeling team.

Request Parameters

Table 16-321 Request body parameters

Parameter	Mandatory	Type	Description
workers	Yes	Array of strings	Team member ID list.

Response Parameters

Status code: 200

Table 16-322 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
results	Array of BatchResponse objects	Result of deleting team members in batches.
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> • true: The operation is successful. • false: The operation is failed.

Table 16-323 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Check whether the operation is successful. Options: <ul style="list-style-type: none"> • true: The operation is successful. • false: The operation is failed.

Example Requests

Deleting Labeling Team Members in Batches

```
{
  "workers" : [ "89d4ae38431b8905449821605abd3a9", "a2abd3f27b4e92c593c15282f8b6bd29" ]
}
```

Example Responses

Status code: 200

OK

```
{
  "success" : true,
  "results" : [ {
    "success" : true
  }, {
    "success" : true
  } ]
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.51 Querying Details About Labeling Team Members

Function

This API is used to query details about labeling team members.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/workforces/{workforce_id}/workers/{worker_id}

Table 16-324 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
worker_id	Yes	String	ID of a labeling team member.
workforce_id	Yes	String	ID of a labeling team.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-325 Response body parameters

Parameter	Type	Description
create_time	Long	Creation time.
description	String	Labeling team member description. The value contains 0 to 256 characters and does not support the following special characters: ^! <>=&"
email	String	Email address of a labeling team member.
role	Integer	Role. The options are as follows: <ul style="list-style-type: none"> ● 0: annotator ● 1: reviewer ● 2: team manager ● 3: dataset owner
status	Integer	Current login status of a labeling team member. Options: <ul style="list-style-type: none"> ● 0: The invitation email has not been sent. ● 1: The invitation email has been sent but the user has not logged in. ● 2: The user has logged in. ● 3: The labeling team member has been deleted.
update_time	Long	Update time.

Parameter	Type	Description
worker_id	String	ID of a labeling team member.
workforce_id	String	ID of a labeling team.

Example Requests

Querying Details About Labeling Team Members

```
GET https://{endpoint}/v2/{project_id}/workforces/{workforce_id}/workers/{worker_id}
```

Example Responses

Status code: 200

OK

```
{  
  "email" : "xxx@xxx.com",  
  "worker_id" : "b1e4054407ecb36a7bcde70f52ba37f2",  
  "workforce_id" : "gyb71aAvkLc5lhEY2dv",  
  "status" : 0,  
  "role" : 2,  
  "description" : "",  
  "create_time" : 1606356324223,  
  "update_time" : 1606356324223  
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.52 Updating a Labeling Team Member

Function

This API is used to update a labeling team member.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v2/{project_id}/workforces/{workforce_id}/workers/{worker_id}

Table 16-326 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
worker_id	Yes	String	ID of a labeling team member.
workforce_id	Yes	String	ID of a labeling team.

Request Parameters

Table 16-327 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	Labeling team member description. The value contains 0 to 256 characters and does not support the following special characters: ^!<>=&""
role	No	Integer	Role. Options: <ul style="list-style-type: none"> ● 0: labeling personnel ● 1: reviewer ● 2: team administrator ● 3: dataset owner

Response Parameters

None

Example Requests

Updating a Labeling Team Member

```
{
  "description" : "My name is Tom",
```

```
"role" : 2
}
```

Example Responses

Status code: 200

OK

```
{}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.53 Deleting a Labeling Team Member

Function

This API is used to delete a labeling team member.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

DELETE /v2/{project_id}/workforces/{workforce_id}/workers/{worker_id}

Table 16-328 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
worker_id	Yes	String	ID of a labeling team member.

Parameter	Mandatory	Type	Description
workforce_id	Yes	String	ID of a labeling team.

Request Parameters

None

Response Parameters

None

Example Requests

Deleting a Labeling Team Member

```
DELETE https://{endpoint}/v2/{project_id}/workforces/{workforce_id}/workers/{worker_id}
```

Example Responses

Status code: 204

No Content

```
{}
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden

Error Codes

See [Error Codes](#).

16.1.54 Querying the Dataset Import Task List

Function

This API is used to query the dataset import task list by page.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}/import-tasks

Table 16-329 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Table 16-330 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records returned on each page. The value ranges from 1 to 100. The default value is 10 .
offset	No	Integer	Start page of the paging list. The default value is 0 .

Request Parameters

None

Response Parameters

Status code: 200

Table 16-331 Response body parameters

Parameter	Type	Description
import_tasks	Array of ImportTaskStatusResp objects	List of import tasks.
total_count	Integer	Number of import tasks.

Table 16-332 ImportTaskStatusResp

Parameter	Type	Description
annotated_sample_count	Long	Number of labeled samples.
create_time	Long	Time when a task is created.
data_source	DataSource object	Data source.
dataset_id	String	Dataset ID.
elapsed_time	Long	Task running time, in seconds.
error_code	String	Error code.
error_msg	String	Error message.
file_statistics	FileCopyProgress object	File replication progress
finished_file_count	Long	Number of files that have been transferred.
finished_file_size	Long	Size of the file that has been transferred, in bytes.
import_path	String	OBS path or manifest path to be imported. <ul style="list-style-type: none"> When importing a manifest file, ensure that the path is accurate to the manifest file. When a path is imported as a directory, the dataset type can only support image classification, object detection, text classification, or sound classification.
import_type	Integer	Import mode. Options: <ul style="list-style-type: none"> 0: Import by directory. 1: Import by manifest file.
imported_sample_count	Long	Number of imported samples.
imported_sub_sample_count	Long	Number of imported subsamples.
processor_task_id	String	ID of a preprocessing task.
processor_task_status	Integer	Status of a preprocessing task.

Parameter	Type	Description
status	String	Status of an import task. Options: <ul style="list-style-type: none"> ● QUEUING: queuing ● STARTING: execution started ● RUNNING: running ● COMPLETED: completed ● FAILED: failed ● NOT_EXIST: not found
task_id	String	Task ID.
total_file_count	Long	Total number of files.
total_file_size	Long	Total file size, in bytes.
total_sample_count	Long	Total number of samples.
total_sub_sample_count	Long	Total number of subsamples generated from the parent samples.
unconfirmed_sample_count	Long	Number of samples to be confirmed.
update_ms	Long	Time when a task is updated.

Table 16-333 DataSource

Parameter	Type	Description
data_path	String	Data source path.
data_type	Integer	Data type. Options: <ul style="list-style-type: none"> ● 0: OBS bucket (default value) ● 1: GaussDB(DWS) ● 2: DLI ● 3: RDS ● 4: MRS ● 5: AI Gallery ● 6: Inference service
schema_maps	Array of SchemaMap objects	Schema mapping information corresponding to the table data.
source_info	SourceInfo object	Information required for importing a table data source.

Parameter	Type	Description
with_column_header	Boolean	Whether the first row in the file is a column name. This field is valid for the table dataset. Options: <ul style="list-style-type: none"> • true: The first row in the file is the column name. • false: The first row in the file is not the column name.

Table 16-334 SchemaMap

Parameter	Type	Description
dest_name	String	Name of the destination column.
src_name	String	Name of the source column.

Table 16-335 SourceInfo

Parameter	Type	Description
cluster_id	String	MRS cluster ID. You can log in to the MRS console to view the information.
cluster_mode	String	Running mode of an MRS cluster. Options: <ul style="list-style-type: none"> • 0: normal cluster • 1: security cluster
cluster_name	String	MRS cluster name You can log in to the MRS console to view the information.
database_name	String	Name of the database to which the table dataset is imported.
input	String	HDFS path of the table data set. For example, / datasets/demo.
ip	String	IP address of your GaussDB(DWS) cluster.
port	String	Port number of your GaussDB(DWS) cluster.
queue_name	String	DLI queue name of a table dataset.
subnet_id	String	Subnet ID of an MRS cluster.
table_name	String	Name of the table to which a table dataset is imported.
user_name	String	Username, which is mandatory for GaussDB(DWS) data.

Parameter	Type	Description
user_password	String	User password, which is mandatory for GaussDB(DWS) data.
vpc_id	String	ID of the VPC where an MRS cluster resides.

Table 16-336 FileCopyProgress

Parameter	Type	Description
file_num_finished	Long	Number of files that have been transferred.
file_num_total	Long	Total number of files.
file_size_finished	Long	Size of the file that has been transferred, in bytes.
file_size_total	Long	Total file size, in bytes.

Example Requests

Obtaining the Dataset Import Task List

GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/import-tasks

Example Responses

Status code: 200

OK

```
{
  "total_count": 1,
  "import_tasks": [ {
    "status": "COMPLETED",
    "task_id": "gfgHHSokody6AJigS5A_RHJ1zOkIol3Nzwxj8nh",
    "dataset_id": "gfgHHSokody6AJigS5A",
    "import_path": "obs://test-obs/daoLu_images/animals/",
    "import_type": 0,
    "total_sample_count": 20,
    "imported_sample_count": 20,
    "annotated_sample_count": 20,
    "total_sub_sample_count": 0,
    "imported_sub_sample_count": 0,
    "total_file_size": 0,
    "finished_file_count": 0,
    "finished_file_size": 0,
    "total_file_count": 0,
    "create_time": 1606114833874,
    "elapsed_time": 2
  } ]
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.55 Creating an Import Task

Function

This API is used to create a dataset import task to import samples and labels from the storage system to the dataset.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/import-tasks

Table 16-337 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Request Parameters

Table 16-338 Request body parameters

Parameter	Mandatory	Type	Description
data_source	No	DataSource object	Data source.
difficult_only	No	Boolean	Whether to import only hard examples. Options: <ul style="list-style-type: none"> • true: Only difficult samples are imported. • false: All samples are imported. (Default value)
excluded_labels	No	Array of Label objects	Do not import samples containing the specified label.
final_annotation	No	Boolean	Whether to import data to the final state. Options: <ul style="list-style-type: none"> • true: Import data to the final state. (Default value) • false: Do not import data to the final state.
import_annotations	No	Boolean	Whether to import labels. Options: <ul style="list-style-type: none"> • true: Import labels. (Default value) • false: Do not import labels.
import_folder	No	String	Name of the subdirectory in the dataset storage directory after import. You can specify the same subdirectory for multiple import tasks to avoid repeated import of the same samples. This field is invalid for table datasets.
import_origin	No	String	Data source. Options: <ul style="list-style-type: none"> • obs: OBS bucket (default value) • dws: GaussDB(DWS) • dli: DLI • rds: RDS • mrs: MRS • inference: Inference service

Parameter	Mandatory	Type	Description
import_path	Yes	String	OBS path or manifest path to be imported. <ul style="list-style-type: none"> When importing a manifest file, ensure that the path is accurate to the manifest file. When a path is imported as a directory, the dataset type can only support image classification, object detection, text classification, or sound classification.
import_samples	No	Boolean	Whether to import samples. Options: <ul style="list-style-type: none"> true: Import samples. (Default value) false: Do not import samples.
import_type	No	String	Import mode. Options: <ul style="list-style-type: none"> dir: Import datasets through an OBS path. manifest: Import datasets through a manifest file.
included_labels	No	Array of Label objects	Import samples containing the specified label.
label_format	No	LabelFormat object	Label format. This parameter is used only for text datasets.
with_column_header	No	Boolean	Whether the first row in the file is a column name. This field is valid for the table dataset. Options: <ul style="list-style-type: none"> true: The first row in the file is the column name. false: The first row in the file is not the column name. (Default value)

Table 16-339 DataSource

Parameter	Mandatory	Type	Description
data_path	No	String	Data source path.

Parameter	Mandatory	Type	Description
data_type	No	Integer	Data type. Options: <ul style="list-style-type: none"> • 0: OBS bucket (default value) • 1: GaussDB(DWS) • 2: DLI • 3: RDS • 4: MRS • 5: AI Gallery • 6: Inference service
schema_maps	No	Array of SchemaMap objects	Schema mapping information corresponding to the table data.
source_info	No	SourceInfo object	Information required for importing a table data source.
with_column_header	No	Boolean	Whether the first row in the file is a column name. This field is valid for the table dataset. Options: <ul style="list-style-type: none"> • true: The first row in the file is the column name. • false: The first row in the file is not the column name.

Table 16-340 SchemaMap

Parameter	Mandatory	Type	Description
dest_name	No	String	Name of the destination column.
src_name	No	String	Name of the source column.

Table 16-341 SourceInfo

Parameter	Mandatory	Type	Description
cluster_id	No	String	MRS cluster ID. You can log in to the MRS console to view the information.

Parameter	Mandatory	Type	Description
cluster_mode	No	String	Running mode of an MRS cluster. Options: <ul style="list-style-type: none"> • 0: normal cluster • 1: security cluster
cluster_name	No	String	MRS cluster name You can log in to the MRS console to view the information.
database_name	No	String	Name of the database to which the table dataset is imported.
input	No	String	HDFS path of the table dataset. For example, /datasets/demo.
ip	No	String	IP address of your GaussDB(DWS) cluster.
port	No	String	Port number of your GaussDB(DWS) cluster.
queue_name	No	String	DLI queue name of a table dataset.
subnet_id	No	String	Subnet ID of an MRS cluster.
table_name	No	String	Name of the table to which a table dataset is imported.
user_name	No	String	Username, which is mandatory for GaussDB(DWS) data.
user_password	No	String	User password, which is mandatory for GaussDB(DWS) data.
vpc_id	No	String	ID of the VPC where an MRS cluster resides.

Table 16-342 Label

Parameter	Mandatory	Type	Description
attributes	No	Array of LabelAttribute objects	Multi-dimensional attribute of a label. For example, if the label is music, attributes such as style and artist may be included.

Parameter	Mandatory	Type	Description
name	No	String	Label name.
property	No	LabelProperty object	Basic attribute key-value pair of a label, such as color and shortcut keys.
type	No	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-343 LabelAttribute

Parameter	Mandatory	Type	Description
default_value	No	String	Default value of a label attribute.
id	No	String	Label attribute ID. You can query the tag by invoking the tag list.
name	No	String	Label attribute name. The value contains a maximum of 64 characters and cannot contain the character. <=&"".
type	No	String	Label attribute type. Options: <ul style="list-style-type: none"> ● text: text ● select: single-choice drop-down list
values	No	Array of LabelAttributeValue objects	List of label attribute values.

Table 16-344 LabelAttributeValue

Parameter	Mandatory	Type	Description
id	No	String	Label attribute value ID.
value	No	String	Label attribute value.

Table 16-345 LabelProperty

Parameter	Mandatory	Type	Description
@modelarts:color	No	String	Default attribute: Label color, which is a hexadecimal code of the color. By default, this parameter is left blank. Example: #FFFFFF0.
@modelarts:default_shape	No	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dotted line • point: point • polyline: polyline
@modelarts:form_type	No	String	Default attribute: Type of the head entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.
@modelarts:rename_to	No	String	Default attribute: The new name of the label.
@modelarts:shortcut	No	String	Default attribute: Label shortcut key. By default, this parameter is left blank. For example: D .

Parameter	Mandatory	Type	Description
@modelarts:tail_o_type	No	String	Default attribute: Type of the tail entity in the triplet relationship label. This attribute must be specified when a relationship label is created. This parameter is used only for the text triplet dataset.

Table 16-346 LabelFormat

Parameter	Mandatory	Type	Description
label_type	No	String	Label type of text classification. Options: <ul style="list-style-type: none"> • 0: The label is separated from the text, and they are distinguished by the fixed suffix _result. For example, the text file is abc.txt, and the label file is abc_result.txt. • 1: Default value. Labels and texts are stored in the same file and separated by separators. You can use text_sample_separator to specify the separator between the text and label and text_label_separator to specify the separator between labels.
text_label_separator	No	String	Separator between labels. By default, a comma (,) is used as the separator. The separator needs to be escaped. The separator can contain only one character, such as a letter, a digit, or any of the following special characters: ! @#\$%^&* _= ?/!';,

Parameter	Mandatory	Type	Description
text_sample_separator	No	String	Separator between the text and label. By default, the Tab key is used as the separator. The separator needs to be escaped. The separator can contain only one character, such as a letter, a digit, or any of the following special characters: !@#\$%^&* _= ?/!:',;

Response Parameters

Status code: 200

Table 16-347 Response body parameters

Parameter	Type	Description
task_id	String	ID of an import task.

Example Requests

- Creating an Import Task (Importing Data from OBS)

```
{
  "import_type": "dir",
  "import_path": "s3://test-obs/daoLu_images/animals/",
  "included_labels": [ ],
  "import_annotations": false,
  "difficult_only": false
}
```

- Creating an Import Task (Importing Data from Manifest)

```
{
  "import_type": "manifest",
  "import_path": "s3://test-obs/classify/output/dataset-f9e8-gfghHSokody6AJigS5A/annotation/V002/V002.manifest",
  "included_labels": [ "rabbits", "bees", "Rabbits", "Bees" ],
  "import_annotations": true,
  "difficult_only": false
}
```

Example Responses

Status code: 200

OK

```
{
  "task_id": "gfghHSokody6AJigS5A_m1dYqOw8vWCAznw1V28"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.56 Querying Details About a Dataset Import Task

Function

This API is used to query details about a dataset import task.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}/import-tasks/{task_id}

Table 16-348 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
task_id	Yes	String	Task ID.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-349 Response body parameters

Parameter	Type	Description
annotated_sample_count	Long	Number of labeled samples.
create_time	Long	Time when a task is created.
data_source	DataSource object	Data source.
dataset_id	String	Dataset ID.
elapsed_time	Long	Task running time, in seconds.
error_code	String	Error code.
error_msg	String	Error message.
file_statistics	FileCopyProgress object	File replication progress
finished_file_count	Long	Number of files that have been transferred.
finished_file_size	Long	Size of the file that has been transferred, in bytes.
import_path	String	OBS path or manifest path to be imported. <ul style="list-style-type: none"> When importing a manifest file, ensure that the path is accurate to the manifest file. When a path is imported as a directory, the dataset type can only support image classification, object detection, text classification, or sound classification.
import_type	Integer	Import mode. Options: <ul style="list-style-type: none"> 0: Import by directory. 1: Import by manifest file.
imported_sample_count	Long	Number of imported samples.
imported_sub_sample_count	Long	Number of imported subsamples.
processor_task_id	String	ID of a preprocessing task.

Parameter	Type	Description
processor_task_status	Integer	Status of a preprocessing task.
status	String	Status of an import task. Options: <ul style="list-style-type: none"> ● QUEUING: queuing ● STARTING: execution started ● RUNNING: running ● COMPLETED: completed ● FAILED: failed ● NOT_EXIST: not found
task_id	String	Task ID.
total_file_count	Long	Total number of files.
total_file_size	Long	Total file size, in bytes.
total_sample_count	Long	Total number of samples.
total_sub_sample_count	Long	Total number of subsamples generated from the parent samples.
unconfirmed_sample_count	Long	Number of samples to be confirmed.
update_ms	Long	Time when a task is updated.

Table 16-350 DataSource

Parameter	Type	Description
data_path	String	Data source path.
data_type	Integer	Data type. Options: <ul style="list-style-type: none"> ● 0: OBS bucket (default value) ● 1: GaussDB(DWS) ● 2: DLI ● 3: RDS ● 4: MRS ● 5: AI Gallery ● 6: Inference service
schema_maps	Array of SchemaMap objects	Schema mapping information corresponding to the table data.

Parameter	Type	Description
source_info	SourceInfo object	Information required for importing a table data source.
with_column_header	Boolean	Whether the first row in the file is a column name. This field is valid for the table dataset. Options: <ul style="list-style-type: none"> • true: The first row in the file is the column name. • false: The first row in the file is not the column name.

Table 16-351 SchemaMap

Parameter	Type	Description
dest_name	String	Name of the destination column.
src_name	String	Name of the source column.

Table 16-352 SourceInfo

Parameter	Type	Description
cluster_id	String	MRS cluster ID. You can log in to the MRS console to view the information.
cluster_mode	String	Running mode of an MRS cluster. Options: <ul style="list-style-type: none"> • 0: normal cluster • 1: security cluster
cluster_name	String	MRS cluster name You can log in to the MRS console to view the information.
database_name	String	Name of the database to which the table dataset is imported.
input	String	HDFS path of the table data set. For example, / datasets/demo.
ip	String	IP address of your GaussDB(DWS) cluster.
port	String	Port number of your GaussDB(DWS) cluster.
queue_name	String	DLI queue name of a table dataset.
subnet_id	String	Subnet ID of an MRS cluster.
table_name	String	Name of the table to which a table dataset is imported.

Parameter	Type	Description
user_name	String	Username, which is mandatory for GaussDB(DWS) data.
user_password	String	User password, which is mandatory for GaussDB(DWS) data.
vpc_id	String	ID of the VPC where an MRS cluster resides.

Table 16-353 FileCopyProgress

Parameter	Type	Description
file_num_finished	Long	Number of files that have been transferred.
file_num_total	Long	Total number of files.
file_size_finished	Long	Size of the file that has been transferred, in bytes.
file_size_total	Long	Total file size, in bytes.

Example Requests

Querying Details About an Import Task

```
GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/import-tasks/{task_id}
```

Example Responses

Status code: 200

OK

```
{
  "status": "COMPLETED",
  "task_id": "gfgHHSokody6AJigS5A_RHJ1zOkIol3Nzwxj8nh",
  "dataset_id": "gfgHHSokody6AJigS5A",
  "import_path": "obs://test-obs/daoLu_images/animals/",
  "import_type": 0,
  "total_sample_count": 20,
  "imported_sample_count": 20,
  "annotated_sample_count": 20,
  "total_sub_sample_count": 0,
  "imported_sub_sample_count": 0,
  "total_file_size": 0,
  "finished_file_count": 0,
  "finished_file_size": 0,
  "total_file_count": 0,
  "update_ms": 1606114833955,
  "create_time": 1606114833874,
  "elapsed_time": 2
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.57 Querying the Dataset Export Task List

Function

This API is used to query the dataset export task list by page.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}/export-tasks

Table 16-354 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Table 16-355 Query Parameters

Parameter	Mandatory	Type	Description
export_type	No	Integer	Export type. If this parameter is not specified, all types of export tasks are queried by default. Options: <ul style="list-style-type: none"> • 0: labeled • 1: unlabeled • 2: all • 3: conditional search
limit	No	Integer	Maximum number of records returned on each page. The value ranges from 1 to 100. The default value is 10 .
offset	No	Integer	Start page of the paging list. The default value is 0 .

Request Parameters

None

Response Parameters

Status code: 200

Table 16-356 Response body parameters

Parameter	Type	Description
create_time	Long	Time when a task is created.
error_code	String	Error code.
error_msg	String	Error message.
export_format	Integer	Format of the exported directory. Options: <ul style="list-style-type: none"> • 1: tree structure. Example: rabbits/1.jpg,bees/2.jpg. • 2: tile structure. Example: 1.jpg, 1.txt; 2.jpg,2.txt.
export_params	ExportParams object	Parameters of a dataset export task.
export_tasks	Array of ExportTaskStatusResp objects	Export task list

Parameter	Type	Description
export_type	Integer	Export type. Options: <ul style="list-style-type: none"> ● 0: labeled ● 1: unlabeled ● 2: all ● 3: conditional search
finished_sample_count	Integer	Number of completed samples.
path	String	Export output path.
progress	Float	Percentage of current task progress.
status	String	Task status.
task_id	String	Task ID.
total_count	Integer	Total number of export tasks
total_sample_count	Integer	Total number of samples.
update_time	Long	Time when a task is updated.
version_format	String	Format of a dataset version. Options: <ul style="list-style-type: none"> ● Default: default format ● CarbonData: CarbonData (supported only by table datasets) ● CSV: CSV
version_id	String	Dataset version ID.

Table 16-357 ExportTaskStatusResp

Parameter	Type	Description
create_time	Long	Time when a task is created.
error_code	String	Error code.
error_msg	String	Error message.
export_format	Integer	Format of the exported directory. Options: <ul style="list-style-type: none"> ● 1: tree structure. Example: rabbits/1.jpg,bees/2.jpg. ● 2: tile structure. Example: 1.jpg, 1.txt; 2.jpg,2.txt.
export_params	ExportParams object	Parameters of a dataset export task.

Parameter	Type	Description
export_type	Integer	Export type. Options: <ul style="list-style-type: none"> ● 0: labeled ● 1: unlabeled ● 2: all ● 3: conditional search
finished_sample_count	Integer	Number of completed samples.
path	String	Export output path.
progress	Float	Percentage of current task progress.
status	String	Task status.
task_id	String	Task ID.
total_sample_count	Integer	Total number of samples.
update_time	Long	Time when a task is updated.
version_format	String	Format of a dataset version. Options: <ul style="list-style-type: none"> ● Default: default format ● CarbonData: CarbonData (supported only by table datasets) ● CSV: CSV
version_id	String	Dataset version ID.

Table 16-358 ExportParams

Parameter	Type	Description
clear_hard_property	Boolean	Whether to clear hard example attributes. Options: <ul style="list-style-type: none"> ● true: Clear hard example attributes. (Default value) ● false: Do not clear hard example attributes.
export_dataset_version_format	String	Format of the dataset version to which data is exported.
export_dataset_version_name	String	Name of the dataset version to which data is exported.

Parameter	Type	Description
export_dest	String	Dataset export type. The options are as follows: <ul style="list-style-type: none"> • DIR: Data is exported to OBS (default value). • NEW_DATASET: Export data to a new dataset.
export_new_dataset_name	String	Name of the new dataset to which data is exported.
export_new_dataset_work_path	String	Working directory of the new dataset to which data is exported.
ratio_sample_usage	Boolean	Whether to randomly allocate the training set and validation set based on the specified ratio. Options: <ul style="list-style-type: none"> • true: Allocate the training set and validation set. • false: Do not allocate the training set and validation set. (Default value)
sample_state	String	Sample status. The options are as follows: <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: not marked • __UNCHECK__: to be accepted • __ACCEPTED__: The acceptance is passed. • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: approved • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: Sampling is to be accepted. • __WORKFORCE_SAMPLED_CHECKED__: Sampling has been accepted. • __WORKFORCE_SAMPLED_ACCEPTED__: The sampling is passed. • __WORKFORCE_SAMPLED_REJECTED__: The sampling has been rejected. • __AUTO_ANNOTATION__: to be confirmed
samples	Array of strings	ID list of exported samples.
search_conditions	Array of SearchCondition objects	Exported search conditions. The relationship between multiple search conditions is OR.

Parameter	Type	Description
train_sample_ratio	String	Split ratio of training set and verification set during specified version release. The default value is 1.00 , indicating that all released versions are training sets.

Table 16-359 SearchCondition

Parameter	Type	Description
coefficient	String	Filter by coefficient of difficulty.
frame_in_video	Integer	A frame in the video.
hard	String	Whether a sample is a hard sample. Options: <ul style="list-style-type: none"> • 0: non-hard sample • 1: hard sample
import_origin	String	Filter by data source.
kvp	String	CT dosage, filtered by dosage.
label_list	SearchLabels object	Label search criteria.
labeler	String	Labeler.
metadata	SearchProp object	Search by sample attribute.
parent_sample_id	String	Parent sample ID.
sample_dir	String	Directory where data samples are stored (the directory must end with a slash (/)). Only samples in the specified directory are searched for. Recursive search of directories is not supported.
sample_name	String	Search by sample name, including the file name extension.

Parameter	Type	Description
sample_time	String	When a sample is added to the dataset, an index is created based on the last modification time (accurate to day) of the sample on OBS. You can search for the sample based on the time. Options: <ul style="list-style-type: none"> ● month: Search for samples added from 30 days ago to the current day. ● day: Search for samples added from yesterday (one day ago) to the current day. ● yyyyMMdd-yyyyMMdd: Search for samples added in a specified period (at most 30 days), in the format of Start date-End date. For example, 20190901-2019091501 indicates that samples generated from September 1 to September 15, 2019 are searched.
score	String	Search by confidence.
slice_thickness	String	DICOM layer thickness. Samples are filtered by layer thickness.
study_date	String	DICOM scanning time.
time_in_video	String	A time point in the video.

Table 16-360 SearchLabels

Parameter	Type	Description
labels	Array of SearchLabel objects	List of label search criteria.
op	String	If you want to search for multiple labels, op must be specified. If you search for only one label, op can be left blank. Options: <ul style="list-style-type: none"> ● OR: OR operation ● AND: AND operation

Table 16-361 SearchLabel

Parameter	Type	Description
name	String	Label name.

Parameter	Type	Description
op	String	Operation type between multiple attributes. Options: <ul style="list-style-type: none"> ● OR: OR operation ● AND: AND operation
property	Map<String,Array<String>>	Label attribute, which is in the Object format and stores any key-value pairs. key indicates the attribute name, and value indicates the value list. If value is null , the search is not performed by value. Otherwise, the search value can be any value in the list.
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-362 SearchProp

Parameter	Type	Description
op	String	Relationship between attribute values. Options: <ul style="list-style-type: none"> ● AND: AND relationship ● OR: OR relationship
props	Map<String,Array<String>>	Search criteria of an attribute. Multiple search criteria can be set.

Example Requests

Querying the Export Task List by Page

GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/export-tasks

Example Responses

Status code: 200

OK

```
{
  "total_count": 2,
  "export_tasks": [ {
    "task_id": "rF9NNoB56k5rtYKg2Y7",
    "path": "/test-obs/classify/input/",
    "export_type": 3,
    "version_format": "Default",
    "export_format": 2,
    "export_params": {
      "sample_state": "",
      "export_dest": "NEW_DATASET",
      "export_new_dataset_name": "dataset-export-test",
      "export_new_dataset_work_path": "/test-obs/classify/output/",
      "clear_hard_property": true,
      "train_sample_ratio": 1.0,
      "ratio_sample_usage": false
    },
    "status": "SUCCEEDED",
    "progress": 100.0,
    "total_sample_count": 20,
    "finished_sample_count": 20,
    "create_time": 1606103820120,
    "update_time": 1606103824823
  }, {
    "task_id": "TZMuy7OKbClkGCAC3gb",
    "path": "/test-obs/daoChu/",
    "export_type": 3,
    "version_format": "Default",
    "export_format": 2,
    "export_params": {
      "sample_state": "",
      "export_dest": "DIR",
      "clear_hard_property": true,
      "clear_difficult": false,
      "train_sample_ratio": 1.0,
      "ratio_sample_usage": false
    },
    "status": "SUCCEEDED",
    "progress": 100.0,
    "total_sample_count": 20,
    "finished_sample_count": 20,
    "create_time": 1606103424662,
    "update_time": 1606103497519
  }
  ]
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.58 Creating a Dataset Export Task

Function

This API is used to create a dataset export task to export a dataset to OBS or new datasets.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/export-tasks

Table 16-363 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Request Parameters

Table 16-364 Request body parameters

Parameter	Mandatory	Type	Description
annotation_format	No	String	Labeling format. Options: <ul style="list-style-type: none"> VOC: VOC COCO: COCO
export_format	No	Integer	Format of the exported directory. Options: <ul style="list-style-type: none"> 1: tree structure. Example: rabbits/1.jpg,bees/2.jpg. 2: tile structure. Example: 1.jpg, 1.txt; 2.jpg,2.txt.
export_params	No	ExportParams object	Parameters of a dataset export task.

Parameter	Mandatory	Type	Description
export_type	No	Integer	Export type. Options: <ul style="list-style-type: none"> • 0: labeled • 1: unlabeled • 2: all • 3: conditional search
path	No	String	Output path for exporting data to OBS. This parameter is mandatory when data is exported to OBS or a new dataset.
sample_state	No	String	Sample status. The options are as follows: <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: not marked • __UNCHECK__: to be accepted • __ACCEPTED__: The acceptance is passed. • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: approved • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: Sampling is to be accepted. • __WORKFORCE_SAMPLED_CHECKED__: Sampling has been accepted. • __WORKFORCE_SAMPLED_ACCEPTED__: The sampling is passed. • __WORKFORCE_SAMPLED_REJECTED__: The sampling has been rejected. • __AUTO_ANNOTATION__: to be confirmed

Parameter	Mandatory	Type	Description
source_type_header	No	String	Prefix of the OBS path in the exported labeling file. The default value is obs:// . You can set it to s3:// . The image path starting with obs cannot be parsed during training. Set the path prefix in the exported manifest file to s3:// .
status	No	Integer	Task status.
task_id	No	String	Task ID.
version_format	No	String	Format of a dataset version. Options: <ul style="list-style-type: none"> • Default: default format • CarbonData: CarbonData (supported only by table datasets) • CSV: CSV
version_id	No	String	Dataset version ID, which must be specified when data of a dataset version is exported.
with_column_header	No	Boolean	Whether to write the column name in the first line of the CSV file during export. This field is valid for the table dataset. Options: <ul style="list-style-type: none"> • true: Write the column name in the first line of the CSV file. (Default value) • false: Do not write the column name in the first line of the CSV file.

Table 16-365 ExportParams

Parameter	Mandatory	Type	Description
clear_hard_property	No	Boolean	Whether to clear hard example attributes. Options: <ul style="list-style-type: none"> • true: Clear hard example attributes. (Default value) • false: Do not clear hard example attributes.

Parameter	Mandatory	Type	Description
export_dataset_version_format	No	String	Format of the dataset version to which data is exported.
export_dataset_version_name	No	String	Name of the dataset version to which data is exported.
export_dest	No	String	Dataset export type. The options are as follows: <ul style="list-style-type: none"> • DIR: Data is exported to OBS (default value). • NEW_DATASET: Export data to a new dataset.
export_new_dataset_name	No	String	Name of the new dataset to which data is exported.
export_new_dataset_work_path	No	String	Working directory of the new dataset to which data is exported.
ratio_sample_usage	No	Boolean	Whether to randomly allocate the training set and validation set based on the specified ratio. Options: <ul style="list-style-type: none"> • true: Allocate the training set and validation set. • false: Do not allocate the training set and validation set. (Default value)

Parameter	Mandatory	Type	Description
sample_state	No	String	<p>Sample status. The options are as follows:</p> <ul style="list-style-type: none"> • <code>__ALL__</code>: labeled • <code>__NONE__</code>: not marked • <code>__UNCHECK__</code>: to be accepted • <code>__ACCEPTED__</code>: The acceptance is passed. • <code>__REJECTED__</code>: rejected • <code>__UNREVIEWED__</code>: to be reviewed • <code>__REVIEWED__</code>: approved • <code>__WORKFORCE_SAMPLED__</code>: sampled • <code>__WORKFORCE_SAMPLED_UNCHECK__</code>: Sampling is to be accepted. • <code>__WORKFORCE_SAMPLED_CHECKED__</code>: Sampling has been accepted. • <code>__WORKFORCE_SAMPLED_ACCEPTED__</code>: The sampling is passed. • <code>__WORKFORCE_SAMPLED_REJECTED__</code>: The sampling has been rejected. • <code>__AUTO_ANNOTATION__</code>: to be confirmed
samples	No	Array of strings	ID list of exported samples.
search_conditions	No	Array of SearchCondition objects	Exported search conditions. The relationship between multiple search conditions is OR.
train_sample_ratio	No	String	Split ratio of training set and verification set during specified version release. The default value is 1.00 , indicating that all released versions are training sets.

Table 16-366 SearchCondition

Parameter	Mandatory	Type	Description
coefficient	No	String	Filter by coefficient of difficulty.
frame_in_video	No	Integer	A frame in the video.
hard	No	String	Whether a sample is a hard sample. Options: <ul style="list-style-type: none"> • 0: non-hard sample • 1: hard sample
import_origin	No	String	Filter by data source.
kvp	No	String	CT dosage, filtered by dosage.
label_list	No	SearchLabels object	Label search criteria.
labeler	No	String	Labeler.
metadata	No	SearchProp object	Search by sample attribute.
parent_sample_id	No	String	Parent sample ID.
sample_dir	No	String	Directory where data samples are stored (the directory must end with a slash (/)). Only samples in the specified directory are searched for. Recursive search of directories is not supported.
sample_name	No	String	Search by sample name, including the file name extension.

Parameter	Mandatory	Type	Description
sample_time	No	String	When a sample is added to the dataset, an index is created based on the last modification time (accurate to day) of the sample on OBS. You can search for the sample based on the time. Options: <ul style="list-style-type: none"> • month: Search for samples added from 30 days ago to the current day. • day: Search for samples added from yesterday (one day ago) to the current day. • yyyyMMdd-yyyyMMdd: Search for samples added in a specified period (at most 30 days), in the format of Start date-End date. For example, 20190901-2019091501 indicates that samples generated from September 1 to September 15, 2019 are searched.
score	No	String	Search by confidence.
slice_thickness	No	String	DICOM layer thickness. Samples are filtered by layer thickness.
study_date	No	String	DICOM scanning time.
time_in_video	No	String	A time point in the video.

Table 16-367 SearchLabels

Parameter	Mandatory	Type	Description
labels	No	Array of SearchLabel objects	List of label search criteria.

Parameter	Mandatory	Type	Description
op	No	String	If you want to search for multiple labels, op must be specified. If you search for only one label, op can be left blank. Options: <ul style="list-style-type: none"> ● OR: OR operation ● AND: AND operation

Table 16-368 SearchLabel

Parameter	Mandatory	Type	Description
name	No	String	Label name.
op	No	String	Operation type between multiple attributes. Options: <ul style="list-style-type: none"> ● OR: OR operation ● AND: AND operation
property	No	Map<String,Array<String>>	Label attribute, which is in the Object format and stores any key-value pairs. key indicates the attribute name, and value indicates the value list. If value is null , the search is not performed by value. Otherwise, the search value can be any value in the list.
type	No	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-369 SearchProp

Parameter	Mandatory	Type	Description
op	No	String	Relationship between attribute values. Options: <ul style="list-style-type: none"> • AND: AND relationship • OR: OR relationship
props	No	Map<String,Array<String>>	Search criteria of an attribute. Multiple search criteria can be set.

Response Parameters

Status code: 200

Table 16-370 Response body parameters

Parameter	Type	Description
create_time	Long	Time when a task is created.
error_code	String	Error code.
error_msg	String	Error message.
export_format	Integer	Format of the exported directory. Options: <ul style="list-style-type: none"> • 1: tree structure. Example: rabbits/1.jpg,bees/2.jpg. • 2: tile structure. Example: 1.jpg, 1.txt; 2.jpg,2.txt.
export_params	ExportParams object	Parameters of a dataset export task.
export_type	Integer	Export type. Options: <ul style="list-style-type: none"> • 0: labeled • 1: unlabeled • 2: all • 3: conditional search
finished_sample_count	Integer	Number of completed samples.
path	String	Export output path.
progress	Float	Percentage of current task progress.

Parameter	Type	Description
status	String	Task status. Options: <ul style="list-style-type: none"> • INIT: initialized • RUNNING: running • FAILED: failed • SUCCEEDED: completed
task_id	String	Task ID.
total_sample_count	Integer	Total number of samples.
update_time	Long	Time when a task is updated.
version_format	String	Format of a dataset version. Options: <ul style="list-style-type: none"> • Default: default format • CarbonData: CarbonData (supported only by table datasets) • CSV: CSV
version_id	String	Dataset version ID.

Table 16-371 ExportParams

Parameter	Type	Description
clear_hard_property	Boolean	Whether to clear hard example attributes. Options: <ul style="list-style-type: none"> • true: Clear hard example attributes. (Default value) • false: Do not clear hard example attributes.
export_dataset_version_format	String	Format of the dataset version to which data is exported.
export_dataset_version_name	String	Name of the dataset version to which data is exported.
export_dest	String	Dataset export type. The options are as follows: <ul style="list-style-type: none"> • DIR: Data is exported to OBS (default value). • NEW_DATASET: Export data to a new dataset.
export_new_dataset_name	String	Name of the new dataset to which data is exported.

Parameter	Type	Description
export_new_dataset_work_path	String	Working directory of the new dataset to which data is exported.
ratio_sample_usage	Boolean	Whether to randomly allocate the training set and validation set based on the specified ratio. Options: <ul style="list-style-type: none"> • true: Allocate the training set and validation set. • false: Do not allocate the training set and validation set. (Default value)
sample_state	String	Sample status. The options are as follows: <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: not marked • __UNCHECK__: to be accepted • __ACCEPTED__: The acceptance is passed. • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: approved • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: Sampling is to be accepted. • __WORKFORCE_SAMPLED_CHECKED__: Sampling has been accepted. • __WORKFORCE_SAMPLED_ACCEPTED__: The sampling is passed. • __WORKFORCE_SAMPLED_REJECTED__: The sampling has been rejected. • __AUTO_ANNOTATION__: to be confirmed
samples	Array of strings	ID list of exported samples.
search_conditions	Array of SearchCondition objects	Exported search conditions. The relationship between multiple search conditions is OR.
train_sample_ratio	String	Split ratio of training set and verification set during specified version release. The default value is 1.00 , indicating that all released versions are training sets.

Table 16-372 SearchCondition

Parameter	Type	Description
coefficient	String	Filter by coefficient of difficulty.
frame_in_video	Integer	A frame in the video.
hard	String	Whether a sample is a hard sample. Options: <ul style="list-style-type: none"> • 0: non-hard sample • 1: hard sample
import_origin	String	Filter by data source.
kvp	String	CT dosage, filtered by dosage.
label_list	SearchLabels object	Label search criteria.
labeler	String	Labeler.
metadata	SearchProp object	Search by sample attribute.
parent_sample_id	String	Parent sample ID.
sample_dir	String	Directory where data samples are stored (the directory must end with a slash (/)). Only samples in the specified directory are searched for. Recursive search of directories is not supported.
sample_name	String	Search by sample name, including the file name extension.
sample_time	String	When a sample is added to the dataset, an index is created based on the last modification time (accurate to day) of the sample on OBS. You can search for the sample based on the time. Options: <ul style="list-style-type: none"> • month: Search for samples added from 30 days ago to the current day. • day: Search for samples added from yesterday (one day ago) to the current day. • yyyyMMdd-yyyyMMdd: Search for samples added in a specified period (at most 30 days), in the format of Start date-End date. For example, 20190901-2019091501 indicates that samples generated from September 1 to September 15, 2019 are searched.
score	String	Search by confidence.

Parameter	Type	Description
slice_thickness	String	DICOM layer thickness. Samples are filtered by layer thickness.
study_date	String	DICOM scanning time.
time_in_video	String	A time point in the video.

Table 16-373 SearchLabels

Parameter	Type	Description
labels	Array of SearchLabel objects	List of label search criteria.
op	String	If you want to search for multiple labels, op must be specified. If you search for only one label, op can be left blank. Options: <ul style="list-style-type: none"> • OR: OR operation • AND: AND operation

Table 16-374 SearchLabel

Parameter	Type	Description
name	String	Label name.
op	String	Operation type between multiple attributes. Options: <ul style="list-style-type: none"> • OR: OR operation • AND: AND operation
property	Map<String,Array<String>>	Label attribute, which is in the Object format and stores any key-value pairs. key indicates the attribute name, and value indicates the value list. If value is null , the search is not performed by value. Otherwise, the search value can be any value in the list.

Parameter	Type	Description
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-375 SearchProp

Parameter	Type	Description
op	String	Relationship between attribute values. Options: <ul style="list-style-type: none"> ● AND: AND relationship ● OR: OR relationship
props	Map<String,Array<String>>	Search criteria of an attribute. Multiple search criteria can be set.

Example Requests

- Creating an Export Task (Exporting Data to OBS)

```
{
  "path" : "/test-obs/daoChu/",
  "export_type" : 3,
  "export_params" : {
    "sample_state" : "",
    "export_dest" : "DIR"
  }
}
```

- Creating an Export Task (Exporting Data to a New Dataset)

```
{
  "path" : "/test-obs/classify/input/",
  "export_type" : 3,
  "export_params" : {
    "sample_state" : "",
    "export_dest" : "NEW_DATASET",
    "export_new_dataset_name" : "dataset-export-test",
    "export_new_dataset_work_path" : "/test-obs/classify/output/"
  }
}
```

Example Responses

Status code: 200

OK

```
{  
  "task_id" : "rF9NNob56k5rtYKg2Y7"  
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.59 Querying the Status of a Dataset Export Task

Function

This API is used to query the status of a dataset export task.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{resource_id}/export-tasks/{task_id}

Table 16-376 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
resource_id	Yes	String	Resource ID. Currently, the dataset ID can be specified.

Parameter	Mandatory	Type	Description
task_id	Yes	String	ID of an export task.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-377 Response body parameters

Parameter	Type	Description
create_time	Long	Time when a task is created.
error_code	String	Error code.
error_msg	String	Error message.
export_format	Integer	Format of the exported directory. Options: <ul style="list-style-type: none"> • 1: tree structure. Example: rabbits/1.jpg,bees/2.jpg. • 2: tile structure. Example: 1.jpg, 1.txt; 2.jpg,2.txt.
export_params	ExportParams object	Parameters of a dataset export task.
export_type	Integer	Export type. Options: <ul style="list-style-type: none"> • 0: labeled • 1: unlabeled • 2: all • 3: conditional search
finished_sample_count	Integer	Number of completed samples.
path	String	Export output path.
progress	Float	Percentage of current task progress.
status	String	Task status.
task_id	String	Task ID.
total_sample_count	Integer	Total number of samples.
update_time	Long	Time when a task is updated.

Parameter	Type	Description
version_format	String	Format of a dataset version. Options: <ul style="list-style-type: none"> • Default: default format • CarbonData: CarbonData (supported only by table datasets) • CSV: CSV
version_id	String	Dataset version ID.

Table 16-378 ExportParams

Parameter	Type	Description
clear_hard_property	Boolean	Whether to clear hard example attributes. Options: <ul style="list-style-type: none"> • true: Clear hard example attributes. (Default value) • false: Do not clear hard example attributes.
export_dataset_version_format	String	Format of the dataset version to which data is exported.
export_dataset_version_name	String	Name of the dataset version to which data is exported.
export_dest	String	Dataset export type. The options are as follows: <ul style="list-style-type: none"> • DIR: Data is exported to OBS (default value). • NEW_DATASET: Export data to a new dataset.
export_new_dataset_name	String	Name of the new dataset to which data is exported.
export_new_dataset_work_path	String	Working directory of the new dataset to which data is exported.
ratio_sample_usage	Boolean	Whether to randomly allocate the training set and validation set based on the specified ratio. Options: <ul style="list-style-type: none"> • true: Allocate the training set and validation set. • false: Do not allocate the training set and validation set. (Default value)

Parameter	Type	Description
sample_state	String	Sample status. The options are as follows: <ul style="list-style-type: none"> • <code>__ALL__</code>: labeled • <code>__NONE__</code>: not marked • <code>__UNCHECK__</code>: to be accepted • <code>__ACCEPTED__</code>: The acceptance is passed. • <code>__REJECTED__</code>: rejected • <code>__UNREVIEWED__</code>: to be reviewed • <code>__REVIEWED__</code>: approved • <code>__WORKFORCE_SAMPLED__</code>: sampled • <code>__WORKFORCE_SAMPLED_UNCHECK__</code>: Sampling is to be accepted. • <code>__WORKFORCE_SAMPLED_CHECKED__</code>: Sampling has been accepted. • <code>__WORKFORCE_SAMPLED_ACCEPTED__</code>: The sampling is passed. • <code>__WORKFORCE_SAMPLED_REJECTED__</code>: The sampling has been rejected. • <code>__AUTO_ANNOTATION__</code>: to be confirmed
samples	Array of strings	ID list of exported samples.
search_conditions	Array of SearchCondition objects	Exported search conditions. The relationship between multiple search conditions is OR.
train_sample_ratio	String	Split ratio of training set and verification set during specified version release. The default value is 1.00 , indicating that all released versions are training sets.

Table 16-379 SearchCondition

Parameter	Type	Description
coefficient	String	Filter by coefficient of difficulty.
frame_in_video	Integer	A frame in the video.
hard	String	Whether a sample is a hard sample. Options: <ul style="list-style-type: none"> • 0: non-hard sample • 1: hard sample
import_origin	String	Filter by data source.

Parameter	Type	Description
kvp	String	CT dosage, filtered by dosage.
label_list	SearchLabels object	Label search criteria.
labeler	String	Labeler.
metadata	SearchProp object	Search by sample attribute.
parent_sample_id	String	Parent sample ID.
sample_dir	String	Directory where data samples are stored (the directory must end with a slash (/)). Only samples in the specified directory are searched for. Recursive search of directories is not supported.
sample_name	String	Search by sample name, including the file name extension.
sample_time	String	When a sample is added to the dataset, an index is created based on the last modification time (accurate to day) of the sample on OBS. You can search for the sample based on the time. Options: <ul style="list-style-type: none"> ● month: Search for samples added from 30 days ago to the current day. ● day: Search for samples added from yesterday (one day ago) to the current day. ● yyyyMMdd-yyyyMMdd: Search for samples added in a specified period (at most 30 days), in the format of Start date-End date. For example, 20190901-2019091501 indicates that samples generated from September 1 to September 15, 2019 are searched.
score	String	Search by confidence.
slice_thickness	String	DICOM layer thickness. Samples are filtered by layer thickness.
study_date	String	DICOM scanning time.
time_in_video	String	A time point in the video.

Table 16-380 SearchLabels

Parameter	Type	Description
labels	Array of SearchLabel objects	List of label search criteria.
op	String	If you want to search for multiple labels, op must be specified. If you search for only one label, op can be left blank. Options: <ul style="list-style-type: none"> ● OR: OR operation ● AND: AND operation

Table 16-381 SearchLabel

Parameter	Type	Description
name	String	Label name.
op	String	Operation type between multiple attributes. Options: <ul style="list-style-type: none"> ● OR: OR operation ● AND: AND operation
property	Map<String,Array<String>>	Label attribute, which is in the Object format and stores any key-value pairs. key indicates the attribute name, and value indicates the value list. If value is null , the search is not performed by value. Otherwise, the search value can be any value in the list.
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-382 SearchProp

Parameter	Type	Description
op	String	Relationship between attribute values. Options: <ul style="list-style-type: none"> • AND: AND relationship • OR: OR relationship
props	Map<String,Array<String>>	Search criteria of an attribute. Multiple search criteria can be set.

Example Requests

Querying the Status of an Export Task (Exporting Data to OBS)

```
GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/export-tasks/{task_id}
```

Example Responses

Status code: 200

OK

```
{
  "task_id" : "TZMuy7OKbClkGCAC3gb",
  "path" : "/test-obs/daoChu/",
  "export_type" : 3,
  "version_format" : "Default",
  "export_format" : 2,
  "export_params" : {
    "sample_state" : "",
    "export_dest" : "DIR",
    "clear_hard_property" : true,
    "train_sample_ratio" : 1.0,
    "ratio_sample_usage" : false
  },
  "status" : "RUNNING",
  "progress" : 0.0,
  "create_time" : 1606103424662,
  "update_time" : 1606103494124
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.60 Synchronizing a Dataset

Function

Synchronize samples and labeling information from the input dataset path to the dataset. Text datasets do not support this operation.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/sync-data

Table 16-383 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

None

Example Requests

Synchronizing a Dataset

POST https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/sync-data

Example Responses

None

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.61 Querying the Status of a Dataset Synchronization Task

Function

This API is used to query the status of a dataset synchronization task.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}/sync-data/status

Table 16-384 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Request Parameters

None

Response Parameters

Status code: 200

Table 16-385 Response body parameters

Parameter	Type	Description
add_sample_count	Long	Number of added samples.
create_time	Long	Task creation time.
dataset_id	String	Dataset ID.
deleted_sample_count	Long	Number of deleted samples.
duration_time	Long	Task running time.
error_code	String	Error code.
error_msg	String	Error message.
status	String	Status of a task. Options: <ul style="list-style-type: none"> ● QUEUING: queuing ● STARTING: execution started ● RUNNING: running ● COMPLETED: completed ● FAILED: failed ● NOT_EXIST: not found
task_id	String	Synchronization task ID.
total_sample_count	Long	Total number of samples.

Example Requests

Obtaining the Dataset Synchronization Status

GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/sync-data/status

Example Responses

Status code: 200

OK

```
{
  "status": "COMPLETED",
  "dataset_id": "gfghHSokody6AJig55A"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.62 Obtaining an Auto Labeling Sample List

Function

Obtain a list of auto labeling samples in a dataset.

Debugging

You can debug this API in [API Explorer](#) which supports automatic authentication. API Explorer can automatically generate SDK code examples and provide the SDK code example debugging.

URI

GET /v2/{project_id}/datasets/{dataset_id}/auto-annotations/samples

Table 16-386 URI parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 16-387 Query parameters

Parameter	Mandatory	Type	Description
high_score	No	String	Upper limit of the confidence score. The default value is 1 .
label_name	No	String	Label name

Parameter	Mandatory	Type	Description
label_type	No	Integer	Labeling type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 400: table dataset • 600: video labeling • 900: free format
limit	No	Integer	Maximum number of records returned on each page. The value ranges from 1 to 100 . The default value is 10 .
low_score	No	String	Lower limit of the confidence score. The default value is 0 .
offset	No	Integer	Start page for pagination display. The default value is 0 .
order	No	String	Sorting sequence of the query. Options: <ul style="list-style-type: none"> • asc: ascending order • desc: descending order (default value)
process_parameter	No	String	Image resize configuration, which is the same as OBS settings. For details, see Resizing Images . For example, image/resize,m_lfit,h_200 indicates that the target image is resized proportionally and the height is set to 200 pixels.
search_conditions	No	String	Multi-dimensional search criteria after URL encoding. The relationship between multiple search conditions is AND.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-388 Response body parameters

Parameter	Type	Description
sample_count	Integer	Number of samples
samples	Array of DescribeSampleResp objects	List of samples

Table 16-389 DescribeSampleResp

Parameter	Type	Description
check_accept	Boolean	Whether the acceptance is passed, which is used for team labeling. Options: <ul style="list-style-type: none"> true: The acceptance is passed. false: The acceptance is not passed.
check_comment	String	Acceptance comment, which is used for team labeling.
check_score	String	Acceptance score, which is used for team labeling.
deletion_reasons	Array of strings	Reason for deleting a sample, which is used for healthcare.
hard_details	Map<String, HardDetail >	Difficult problem details, including description, causes, and suggestions of difficult problems.
labelers	Array of Worker objects	Labeling personnel list of sample allocation. The list records the team members receiving the samples, which is used for team labeling.
labels	Array of SampleLabel objects	List of sample labels
metadata	SampleMetadata object	Attribute key-value pair of the sample metadata

Parameter	Type	Description
review_accept	Boolean	Whether to accept the review, which is used for team labeling. Options: <ul style="list-style-type: none"> • true: The review is accepted. • false: The review is rejected.
review_comment	String	Review comment, which is used for team labeling.
review_score	String	Review score, which is used for team labeling.
sample_data	Array of strings	List of sample data
sample_dir	String	Path for storing a sample
sample_id	String	Sample ID
sample_name	String	Sample name
sample_size	Long	Sample size or text length, in bytes
sample_status	String	Sample status. Options: <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: unlabeled • __UNCHECK__: to be accepted • __ACCEPTED__: accepted • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: reviewed • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: sampling pending check • __WORKFORCE_SAMPLED_CHECKED__: sampling checked • __WORKFORCE_SAMPLED_ACCEPTED__: sampling accepted • __WORKFORCE_SAMPLED_REJECTED__: sampling rejected • __AUTO_ANNOTATION__: to be confirmed
sample_time	Long	Sample time, when OBS is last modified.

Parameter	Type	Description
sample_type	Integer	Sample type. Options: <ul style="list-style-type: none"> ● 0: image ● 1: text ● 2: audio ● 4: table ● 6: video ● 9: free format
score	String	Comprehensive score, which is used for team labeling.
source	String	Source address of sample data
sub_sample_url	String	Subsample URL, which is used for healthcare.
worker_id	String	ID of a labeling team member, which is used for team labeling.

Table 16-390 HardDetail

Parameter	Type	Description
alo_name	String	Alias
id	Integer	Reason ID
reason	String	Reason description
suggestion	String	Handling suggestion

Table 16-391 Worker

Parameter	Type	Description
create_time	Long	Worker creation time
description	String	Labeling team member description. The value contains 0 to 256 characters. Special characters (^!<>=&"') are not allowed.
email	String	Email address of a labeling team member

Parameter	Type	Description
role	Integer	Role. Options: <ul style="list-style-type: none"> ● 0: marker ● 1: reviewer ● 2: team manager ● 3: dataset owner
status	Integer	Current login status of a labeled member. Options: <ul style="list-style-type: none"> ● 0: No invitation email is sent. ● 1: The invitation email is sent but the member has not logged in. ● 2: The member has logged in. ● 3: The member has been deleted.
update_time	Long	Worker update time
worker_id	String	ID of a labeling team member
workforce_id	String	ID of a labeling team

Table 16-392 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: <ul style="list-style-type: none"> ● human: manual labeling ● auto: auto labeling
id	String	Label ID
name	String	Label name
property	SampleLabel Property object	Attribute key-value pair of the sample label, such as the object shape and shape feature
score	Float	Confidence. The value ranges from 0 to 1 .

Parameter	Type	Description
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-393 SampleLabelProperty

Parameter	Type	Description
@modelarts:content	String	Speech text content, which is a default attribute dedicated to the speech label (including the speech content and speech start and end points)
@modelarts:end_index	Integer	End position of the text, which is a default attribute dedicated to the named entity label. The end position does not include the character corresponding to the value of end_index . Examples: <ul style="list-style-type: none"> ● If the text is "Barack Hussein Obama II (born on August 4, 1961) is an attorney and politician.", the start_index and end_index of Barack Hussein Obama II are 0 and 23, respectively. ● If the text is "Hope is the thing with feathers", start_index and end_index of Hope are 0 and 4, respectively.
@modelarts:end_time	String	Speech end time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)

Parameter	Type	Description
@modelarts:feature	Object	<p>Shape feature, which is a default attribute dedicated to the object detection label, with type of List. The upper left corner of an image is used as the coordinate origin [0, 0]. Each coordinate point is represented by [x, y]. <i>x</i> indicates the horizontal coordinate, and <i>y</i> indicates the vertical coordinate (both <i>x</i> and <i>y</i> are greater than or equal to 0). The format of each shape is as follows:</p> <ul style="list-style-type: none"> • bndbox: consists of two points, for example, [[0,10],[50,95]]. The upper left vertex of the rectangle is the first point, and the lower right vertex is the second point. That is, the <i>x</i>-coordinate of the first point must be less than the <i>x</i>-coordinate of the second point, and the <i>y</i>-coordinate of the first point must be less than the <i>y</i>-coordinate of the second point. • polygon: consists of multiple points that are connected in sequence to form a polygon, for example, [[0,100],[50,95],[10,60],[500,400]]. • circle: consists of the center and radius, for example, [[100,100],[50]]. • line: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • dashed: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • point: consists of one point, for example, [[0,100]]. • polyline: consists of multiple points, for example, [[0,100],[50,95],[10,60],[500,400]].
@modelarts:from	String	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label
@modelarts:hard	String	<p>Whether the sample is labeled as a hard example, which is a default attribute. Options:</p> <ul style="list-style-type: none"> • 0/false: The label is not a hard example. • 1/true: The label is a hard example.
@modelarts:hard_coefficient	String	Coefficient of difficulty of each label level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	String	<p>Reasons why the sample is a hard example, which is a default attribute. Use a hyphen (-) to separate every two hard example reason IDs, for example, 3-20-21-19. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on flplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:shape	String	Object shape, which is a default attribute dedicated to the object detection label and is left empty by default. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dashed line • point: point • polyline: polyline
@modelarts:source	String	Speech source, which is a default attribute dedicated to the speech start/end point label and can be set to a speaker or narrator
@modelarts:start_index	Integer	Start position of the text, which is a default attribute dedicated to the named entity label. The start value begins from 0, including the character corresponding to the value of start_index .
@modelarts:start_time	String	Speech start time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:triplet_id	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 16-394 SampleMetadata

Parameter	Type	Description
@modelarts:import_origin	Integer	Sample source, which is a default attribute.
@modelarts:hard	Double	Whether the sample is labeled as a hard example, which is a default attribute. Options: <ul style="list-style-type: none"> • 0: The label is not a hard example. • 1: The label is a hard example.
@modelarts:hard_coefficient	Double	Coefficient of difficulty of each sample level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	<p>ID of a hard example reason, which is a default attribute. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on fliplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:size	Array of objects	image size, including width, height, and depth. The type is List[/topic/body/section/table/tgroup/tbody/row/entry/p/br. {""}] (br]. In the list, the first number indicates the width (pixels), the second number indicates the height (pixels), and the third number indicates the depth (the depth can be left blank and the default value is 3). For example, [100,200,3] and [100,200] are both valid. Note: This parameter is mandatory only when the sample label list contains the object detection label.

Request Example

Run the following command to obtain an auto labeling sample list:

```
GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/auto-annotations/samples
```

Response Example

Status code: 200

OK

```
{
  "sample_count" : 1,
  "samples" : [ {
    "sample_id" : "10de574cbf0f09d4798b87ba0eb34e37",
    "sample_type" : 0,
    "labels" : [ {
      "name" : "sunflowers",
      "type" : 0,
      "id" : "1",
      "property" : {
        "@modelarts:hard_coefficient" : "0.0",
        "@modelarts:hard" : "false"
      },
      "score" : 1.0
    } ],
    "source" : "https://test-obs.obs.xxx.com:443/animals/8_1597649054631.jpeg?
    AccessKeyId=alRn0xskf5luJaG2jBJe&Expires=1606299230&x-image-process=image%2Fresize%2Cm_lfit
    %2Ch_200&Signature=MNAAJXz%2Fmwn%2BSabSK9wkaG6b6bU%3D",
    "metadata" : {
      "@modelarts:hard_coefficient" : 1.0,
      "@modelarts:hard" : true,
      "@modelarts:import_origin" : 0,
      "@modelarts:hard_reasons" : [ 8, 6, 5, 3 ]
    },
    "sample_time" : 1601432758000,
    "sample_status" : "UN_ANNOTATION"
  } ]
}
```

Status Code

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Code

For details, see [Error Codes](#).

16.1.63 Querying Details About an Auto Labeling Sample

Function

This API is used to query details about an auto labeling sample.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/datasets/{dataset_id}/auto-annotations/samples/{sample_id}

Table 16-395 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
sample_id	Yes	String	Sample ID.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-396 Response body parameters

Parameter	Type	Description
check_accept	Boolean	Whether the acceptance is passed, which is used for team labeling. Options: <ul style="list-style-type: none"> ● true: The acceptance is passed. ● false: The acceptance is not passed.
check_comment	String	Acceptance comment, which is used for team labeling.
check_score	String	Acceptance score, which is used for team labeling.
deletion_reasons	Array of strings	Reason for deleting a sample, which is used for healthcare.
hard_details	Map<String, HardDetail >	Details about difficulties, including description, causes, and suggestions of difficult problems.
labelers	Array of Worker objects	Labeling personnel list of sample assignment. The labelers record the team members to which the sample is allocated for team labeling.
labels	Array of SampleLabel objects	Sample label list.
metadata	SampleMetadata object	Key-value pair of the sample metadata attribute.
review_accept	Boolean	Whether to accept the review, which is used for team labeling. Options: <ul style="list-style-type: none"> ● true: accepted ● false: rejected
review_comment	String	Review comment, which is used for team labeling.
review_score	String	Review score, which is used for team labeling.
sample_data	Array of strings	Sample data list.
sample_dir	String	Sample path.
sample_id	String	Sample ID.
sample_name	String	Sample name.

Parameter	Type	Description
sample_size	Long	Sample size or text length, in bytes.
sample_status	String	<p>Sample status. The options are as follows:</p> <ul style="list-style-type: none"> • <code>__ALL__</code>: labeled • <code>__NONE__</code>: not marked • <code>__UNCHECK__</code>: to be accepted • <code>__ACCEPTED__</code>: The acceptance is passed. • <code>__REJECTED__</code>: rejected • <code>__UNREVIEWED__</code>: to be reviewed • <code>__REVIEWED__</code>: approved • <code>__WORKFORCE_SAMPLED__</code>: sampled • <code>__WORKFORCE_SAMPLED_UNCHECK__</code>: Sampling is to be accepted. • <code>__WORKFORCE_SAMPLED_CHECKED__</code>: Sampling has been accepted. • <code>__WORKFORCE_SAMPLED_ACCEPTED__</code>: The sampling is passed. • <code>__WORKFORCE_SAMPLED_REJECTED__</code>: The sampling has been rejected. • <code>__AUTO_ANNOTATION__</code>: to be confirmed
sample_time	Long	Sample time, when OBS is last modified.
sample_type	Integer	<p>Sample type. Options:</p> <ul style="list-style-type: none"> • <code>0</code>: image • <code>1</code>: text • <code>2</code>: speech • <code>4</code>: table • <code>6</code>: video • <code>9</code>: custom format
score	String	Comprehensive score, which is used for team labeling.
source	String	Source address of sample data.
sub_sample_url	String	Subsample URL, which is used for healthcare.
worker_id	String	ID of a labeling team member, which is used for team labeling.

Table 16-397 HardDetail

Parameter	Type	Description
alo_name	String	Alias.
id	Integer	Reason ID.
reason	String	Reason description.
suggestion	String	Handling suggestion.

Table 16-398 Worker

Parameter	Type	Description
create_time	Long	Creation time.
description	String	Labeling team member description. The value contains 0 to 256 characters and does not support the following special characters: ^! <>=&''
email	String	Email address of a labeling team member.
role	Integer	Role. Options: <ul style="list-style-type: none"> ● 0: labeling personnel ● 1: reviewer ● 2: team administrator ● 3: dataset owner
status	Integer	Current login status of a labeling team member. Options: <ul style="list-style-type: none"> ● 0: The invitation email has not been sent. ● 1: The invitation email has been sent but the user has not logged in. ● 2: The user has logged in. ● 3: The labeling team member has been deleted.
update_time	Long	Update time.
worker_id	String	ID of a labeling team member.
workforce_id	String	ID of a labeling team.

Table 16-399 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to distinguish whether a video is labeled manually or automatically. Options: <ul style="list-style-type: none"> ● human: manual labeling ● auto: automatic labeling
id	String	Label ID.
name	String	Label name.
property	SampleLabel Property object	Attribute key-value pair of the sample label, such as the object shape and shape feature.
score	Float	Confidence. The value range is [0,1].
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-400 SampleLabelProperty

Parameter	Type	Description
@modelarts:content	String	Speech text content, which is a default attribute dedicated to the speech label (including the speech content and speech start and end points).

Parameter	Type	Description
@modelarts:end_index	Integer	<p>End position of the text, which is a default attribute dedicated to the named entity label. The end position does not include the character corresponding to the value of end_index. Example:</p> <ul style="list-style-type: none"> • If the text is "Barack Hussein Obama II (born August 4, 1961) is an attorney and politician.", start_index and end_index of Barack Hussein Obama II are 0 and 23, respectively. • If the text is "Hope is the thing with feathers", start_index and end_index of Hope are 0 and 4, respectively.
@modelarts:end_time	String	<p>Speech end time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)</p>

Parameter	Type	Description
@modelarts:feature	Object	<p>Shape feature, which is a default attribute dedicated to the object detection label, with type of List. The upper left corner of the image is used as the coordinate origin [0, 0]. Each coordinate point is represented by [x, y], where x indicates the horizontal coordinate and y indicates the vertical coordinate (both x and y are >=0). The format of each shape is as follows:</p> <ul style="list-style-type: none"> • bndbox consists of two points, for example, [[0,10],[50,95]]. The upper left vertex of the rectangle is the first point, and the lower right vertex is the second point. That is, the x-coordinate of the first point must be less than the x-coordinate of the second point, and the y-coordinate of the first point must be less than the y-coordinate of the second point. • polygon: consists of multiple points that are connected in sequence to form a polygon, for example, [[0,100],[50,95],[10,60],[500,400]]. • circle: consists of the center and radius, for example, [[100,100],[50]]. • line: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • dashed: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • point: consists of one point, for example, [[0,100]]. • polyline: consists of multiple points, for example, [[0,100],[50,95],[10,60],[500,400]].
@modelarts:from	String	ID of the head entity in the triplet relationship label, which is a default attribute dedicated to the triplet relationship label.
@modelarts:hard	String	<p>Sample labeled as a hard sample or not, which is a default attribute. Options:</p> <ul style="list-style-type: none"> • 0/false: not a hard example • 1/true: hard example
@modelarts:hard_coefficient	String	Coefficient of difficulty of each label level, which is a default attribute. The value range is [0,1] .

Parameter	Type	Description
@modelarts:hard_reasons	String	<p>Reasons that the sample is a hard sample, which is a default attribute. Use a hyphen (-) to separate every two hard sample reason IDs, for example, 3-20-21-19. Options:</p> <ul style="list-style-type: none"> ● 0: No target objects are identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data enhancement result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data enhancement result based on fliplr is inconsistent with the prediction result of the original image. ● 21: The data enhancement result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data enhancement result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data enhancement result based on scale is inconsistent with the prediction result of the original image. ● 24: The data enhancement result based on translate is inconsistent with the prediction result of the original image. ● 25: The data enhancement result based on shear is inconsistent with the prediction result of the original image. ● 26: The data enhancement result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data enhancement result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data enhancement result based on add is inconsistent with the prediction result of the original image. ● 29: The data enhancement result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:shape	String	Object shape, which is a default attribute dedicated to the object detection label and is left empty by default. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dotted line • point: point • polyline: polyline
@modelarts:speech_source	String	Speech source, which is a default attribute dedicated to the speech start/end point label and can be set to a speaker or narrator.
@modelarts:start_index	Integer	Start position of the text, which is a default attribute dedicated to the named entity label. The start value begins from 0, including the character corresponding to the value of start_index .
@modelarts:start_time	String	Speech start time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS . (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:tail_id	String	ID of the tail entity in the triplet relationship label, which is a default attribute dedicated to the triplet relationship label.

Table 16-401 SampleMetadata

Parameter	Type	Description
@modelarts:import_origin	Integer	Sample source, which is a built-in attribute.
@modelarts:hard	Double	Whether the sample is labeled as a hard sample, which is a default attribute. Options: <ul style="list-style-type: none"> • 0: non-hard sample • 1: hard sample
@modelarts:hard_coefficient	Double	Coefficient of difficulty of each sample level, which is a default attribute. The value range is [0,1] .

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	<p>ID of a hard sample reason, which is a default attribute. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data enhancement result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data enhancement result based on fliplr is inconsistent with the prediction result of the original image. ● 21: The data enhancement result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data enhancement result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data enhancement result based on scale is inconsistent with the prediction result of the original image. ● 24: The data enhancement result based on translate is inconsistent with the prediction result of the original image. ● 25: The data enhancement result based on shear is inconsistent with the prediction result of the original image. ● 26: The data enhancement result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data enhancement result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data enhancement result based on add is inconsistent with the prediction result of the original image. ● 29: The data enhancement result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:size	Array of objects	Image size (width, height, and depth of the image), which is a default attribute, with type of List<Integer> . In the list, the first number indicates the width (pixels), the second number indicates the height (pixels), and the third number indicates the depth (the depth can be left blank and the default value is 3). For example, [100,200,3] and [100,200] are both valid. Note: This parameter is mandatory only when the sample label list contains the object detection label.

Example Requests

Querying Details About an Auto Labeling Sample

```
GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/auto-annotations/samples/{sample_id}
```

Example Responses

Status code: 200

OK

```
{
  "sample_id": "0059c1b9458a2da9443af684b5099b4e",
  "sample_type": 0,
  "labels": [ {
    "name": "Bees",
    "type": 0,
    "id": "1",
    "property": {
      "@modelarts:hard_coefficient": "0.0",
      "@modelarts:hard": "false"
    },
    "score": 0.66
  } ],
  "source": "https://test-obs.obs.xxx.com:443/data/3_1597649054631.jpg?
AccessKeyId=RciyO7RHmhNTfOZVryUH&Expires=1606299474&Signature=anOLGOHPSrj3WXUHVc70tAxWlf4
%3D",
  "metadata": {
    "@modelarts:hard_coefficient": 0.0,
    "@modelarts:hard": false,
    "@modelarts:import_origin": 0,
    "@modelarts:hard_reasons": [ ]
  },
  "sample_time": 1600490651933,
  "sample_status": "UN_ANNOTATION"
}
```

Status Codes

Status Code	Description
200	OK

Status Code	Description
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.64 Obtaining an Auto Labeling Task List by Page

Function

Obtain auto labeling tasks by page, including auto labeling and auto grouping tasks. You can specify **type** to obtain the list of a specific type of tasks.

- Auto labeling means learning and training are performed based on the selected labels and images and an existing model is selected to quickly label the remaining images. Auto labeling includes active learning and pre-labeling.
 - Active learning: The system uses semi-supervised learning and hard example filtering to perform auto labeling, reducing manual labeling workload and helping you find hard examples.
 - Pre-labeling: You select a model on the Model Management page for auto labeling.
- In auto grouping, unlabeled images are clustered using a clustering algorithm and then processed based on the clustering result. Images can be labeled by group or cleaned.

Debugging

You can debug this API in [API Explorer](#) which supports automatic authentication. API Explorer can automatically generate SDK code examples and provide the SDK code example debugging.

URI

GET /v2/{project_id}/datasets/{dataset_id}/tasks

Table 16-402 URI parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .

Table 16-403 Query parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records returned on each page. The value ranges from 1 to 100 . The default value is 10 .
offset	No	Integer	Start page for pagination display. The default value is 0 .
task_name	No	String	Task name filtering.
type	No	String	Task type. If this parameter is not delivered, the auto labeling (active learning or pre-labeling) task list is returned by default. Options: <ul style="list-style-type: none"> • auto-label: active learning • pre-label: pre-labeling • auto-grouping: auto grouping

Request Parameters

None

Response Parameters

Status code: 200

Table 16-404 Response body parameters

Parameter	Type	Description
exist_running_deploy_task	Boolean	Whether the dataset contains running (including initialization) one-click model deployment. Options: <ul style="list-style-type: none"> • true: The dataset contains running one-click model deployment. • false: The dataset does not contain running one-click model deployment.
tasks	Array of RunningTask objects	Specifies the task list.
total_count	Integer	Total number of tasks.

Table 16-405 RunningTask

Parameter	Type	Description
annotated_sample_count	Integer	Number of labeled samples
code	String	Error code
config	SmartTaskConfig object	Task configuration
create_time	String	Task creation time
dataset_id	String	Dataset ID
elapsed_time	Long	Task execution time
error_code	String	Error code
error_detail	String	Error details
error_msg	String	Error message
message	String	Error message
model_id	String	Model ID
model_name	String	Model name
model_version	String	Model version
progress	Float	Current task progress
result	Result object	Task result
status	Integer	Task status

Parameter	Type	Description
task_id	String	Task ID
task_name	String	Task name
total_sample_count	Integer	Total number of samples
type	Integer	Task type
unconfirmed_sample_count	Integer	Number of samples to be confirmed

Table 16-406 SmartTaskConfig

Parameter	Type	Description
algorithm_type	String	Algorithm type for auto labeling. Options: <ul style="list-style-type: none"> • fast: Only labeled samples are used for training. • accurate: Unlabeled samples are also used for semi-supervised training.
ambiguity	Boolean	Whether to perform clustering based on the image blurring degree.
annotation_output	String	Output path of the active learning labeling result
collect_rule	String	Sample collection rule. The default value is all , indicating full collection. Only all is available.
collect_sample	Boolean	Whether to enable sample collection. Options: <ul style="list-style-type: none"> • true: Sample collection is enabled. (Default) • false: Sample collection is disabled.
confidence_scope	String	Confidence range of key samples. The minimum and maximum values are separated by hyphens (-), for example, 0.10-0.90 .
description	String	Job description
engine_name	String	Engine name
export_format	Integer	Format of the exported directory. Options: <ul style="list-style-type: none"> • 1: tree structure, for example, rabbits/1.jpg, bees/2.jpg. • 2: tile structure, for example, 1.jpg, 1.txt; 2.jpg, 2.txt
export_params	ExportParams object	Parameters of a dataset export task

Parameter	Type	Description
flavor	Flavor object	Training resource flavor
image_brightness	Boolean	Whether to perform clustering based on the image brightness
image_colorfulness	Boolean	Whether to perform clustering based on the image color
inf_cluster_id	String	ID of a dedicated cluster. This parameter is left blank by default, indicating that a dedicated cluster is not used. When using a dedicated cluster to deploy services, ensure that the cluster status is normal. After this parameter is set, the network configuration of the cluster is used, and the vpc_id parameter does not take effect.
inf_config_list	Array of InfConfig objects	Configuration list required for running an inference job, which is optional and left blank by default
inf_output	String	Output path of inference in active learning
infer_result_output_dir	String	OBS directory for storing sample prediction results. This parameter is optional. The {service_id}-infer-result subdirectory in the output_dir directory is used by default.
key_sample_output	String	Output path of hard examples in active learning
log_url	String	OBS URL of the logs of a training job. By default, this parameter is left blank.
manifest_path	String	Path of the manifest file, which is used as the input for training and inference
model_id	String	Model ID
model_name	String	Model name
model_parameter	String	Model parameters
model_version	String	Model version
n_clusters	Integer	Number of clusters
name	String	Task name

Parameter	Type	Description
output_dir	String	Sample output path. The format is as follows: <i>Dataset output path Dataset name-Dataset ID/annotation/auto-deploy/</i> . Example: /test/work_1608083108676/dataset123-g6lO9qSu6hoxwCAirfm/annotation/auto-deploy/ .
parameters	Array of TrainingParameter objects	Running parameters of a training job
pool_id	String	Resource pool ID
property	String	Attribute name
req_uri	String	Inference path of a batch job
result_type	Integer	Processing mode of auto grouping results. Options: <ul style="list-style-type: none"> ● 0: The results are saved to OBS. ● 1: The results are saved to samples.
samples	Array of SampleLabels objects	Labeling information for samples to be auto labeled
stop_time	Integer	Timeout interval, in minutes. The default value is 15 minutes. This parameter is used only in the scenario of auto labeling for videos.
time	String	Timestamp in active learning
train_data_path	String	Path for storing existing training datasets
train_url	String	OBS URL of the output file of a training job. By default, this parameter is left blank.
version_format	String	Format of a dataset version. Options: <ul style="list-style-type: none"> ● Default ● CarbonData (supported only by table datasets) ● CSV
worker_server_num	Integer	Number of workers in a training job

Table 16-407 ExportParams

Parameter	Type	Description
clear_hard_property	Boolean	Whether to clear hard example attributes. Options: <ul style="list-style-type: none"> ● true: Hard example attributes are cleared. (Default) ● false: Hard example attributes are not cleared.
export_dataset_version_format	String	Format of the dataset version to be exported
export_dataset_version_name	String	Name of the dataset version to be exported
export_dest	String	Format of the exported dataset. Options: <ul style="list-style-type: none"> ● DIR: Export to OBS. (default) ● NEW_DATASET: Export to a new dataset.
export_new_dataset_name	String	Name of the new dataset to which data is exported
export_new_dataset_work_path	String	Working directory of the new dataset to which data is exported
ratio_sample_usage	Boolean	Whether to randomly allocate data to the training and validation datasets based on the specified ratio. Options: <ul style="list-style-type: none"> ● true: The data is randomly allocated to the training and validation datasets. ● false: The data is not randomly allocated to the training and validation datasets. (Default)

Parameter	Type	Description
sample_state	String	Sample status. Options: <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: unlabeled • __UNCHECK__: to be accepted • __ACCEPTED__: accepted • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: reviewed • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: sampling pending check • __WORKFORCE_SAMPLED_CHECKED__: sampling checked • __WORKFORCE_SAMPLED_ACCEPTED__: sampling accepted • __WORKFORCE_SAMPLED_REJECTED__: sampling rejected • __AUTO_ANNOTATION__: to be confirmed
samples	Array of strings	ID list of exported samples
search_conditions	Array of SearchCondition objects	Exported search criteria. Multiple search criteria are in the OR relationship.
train_sample_ratio	String	Split ratio of training and validation datasets for specified version release. The default value is 1.00 , indicating that all data is allocated to the training dataset.

Table 16-408 SearchCondition

Parameter	Type	Description
coefficient	String	Filter by difficulty coefficient
frame_in_video	Integer	A frame in the video
hard	String	Whether a sample is a hard example. Options: <ul style="list-style-type: none"> • 0: The label is not a hard example. • 1: The label is a hard example.
import_origin	String	Filter by data source

Parameter	Type	Description
kvp	String	CT dosage, filtered by dosage.
label_list	SearchLabels object	Label search criteria
labeler	String	Annotator
metadata	SearchProp object	Search by sample attribute
parent_sample_id	String	Parent sample ID
sample_dir	String	Directory where samples are stored (the directory must end with a slash (/)). Only samples in the specified directory are searched for. Recursive search of directories is not supported.
sample_name	String	Search by sample name, including the file name extension
sample_time	String	When a sample is added to the dataset, an index is created based on the last modification time (accurate to day) of the sample on OBS. You can search for the sample based on the time. Options: <ul style="list-style-type: none"> • month: Search for samples added in the last 30 days • day: Search for samples added from yesterday (one day before) to today. • yyyyMMdd-yyyyMMdd: Search for samples added in a specified period. The format is <i>Start date-End date</i>. Maximum number of days for the search: 30. For example, 20190901-2019091501 indicates that samples generated from September 1 to September 15, 2019 are searched for.
score	String	Search by confidence
slice_thickness	String	DICOM layer thickness. Samples are filtered by layer thickness.
study_date	String	DICOM scanning time
time_in_video	String	A time point in the video

Table 16-409 SearchLabels

Parameter	Type	Description
labels	Array of SearchLabel objects	Label search criteria
op	String	If you want to search for multiple labels, op must be specified. If you search for only one label, op can be left blank. Options: <ul style="list-style-type: none"> ● OR: OR operation ● AND: AND operation

Table 16-410 SearchLabel

Parameter	Type	Description
name	String	Label name
op	String	Operation type between multiple attributes. Options: <ul style="list-style-type: none"> ● OR: OR operation ● AND: AND operation
property	Map<String,Array<String>>	Label attribute, which is in the Object format and stores any key-value pairs. key indicates the attribute name, and value indicates the value list. If value is null , the search is not performed by value. Otherwise, the search value can be any value in the list.
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-411 SearchProp

Parameter	Type	Description
op	String	Relationship between attribute values. Options: <ul style="list-style-type: none"> • AND: AND relationship • OR: OR relationship
props	Map<String,Array<String>>	Search criteria of an attribute. Multiple search criteria can be set.

Table 16-412 Flavor

Parameter	Type	Description
code	String	Attribute code of a resource specification, which is used for task creating

Table 16-413 InfConfig

Parameter	Type	Description
envs	Map<String,String>	Environment variable key-value pair required for running a model. This parameter is optional. By default, it is left blank. To ensure data security, do not enter sensitive information in environment variables.
instance_count	Integer	Number of instances (compute nodes) for deploying a model
model_id	String	Model ID
specification	String	Resource specifications of real-time services. For details, see Deploying a Service .
weight	Integer	Traffic weight allocated to a model. This parameter is mandatory only when infer_type is set to real-time . The sum of the weights must be 100.

Table 16-414 TrainingParameter

Parameter	Type	Description
label	String	Parameter name
value	String	Parameter value

Table 16-415 Result

Parameter	Type	Description
annotated_sample_count	Integer	Number of labeled samples
confidence_scope	String	Confidence. The value ranges from 0 to 1 .
dataset_name	String	Dataset name, which can contain 1 to 100 characters. Only letters, digits, underscores (_), and hyphens (-) are allowed.
dataset_type	String	Dataset type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 400: table dataset ● 600: video labeling ● 900: free format
description	String	Description
dlf_model_job_name	String	DLF model inference job name
dlf_service_job_name	String	DLF real-time service job name
dlf_train_job_name	String	DLF training job name
events	Array of Event objects	Event
hard_example_path	String	Path for storing hard examples
hard_select_tasks	Array of HardSelectTask objects	List of selected hard example jobs
manifest_path	String	Path for storing the manifest files
model_id	String	Model ID

Parameter	Type	Description
model_name	String	Model name
model_version	String	Model version
samples	Array of SampleLabels objects	Inference result of the real-time video service.
service_id	String	Real-time service ID
service_name	String	Real-time service name
service_resource	String	ID of the real-time service bound to a user.
total_sample_count	Integer	Total number of samples
train_data_path	String	Path for storing training data
train_job_id	String	Training job ID
train_job_name	String	Training job name
unconfirmed_sample_count	Integer	Number of samples to be confirmed
version_id	String	Dataset version ID
version_name	String	Dataset version name
workspace_id	String	Workspace ID. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.

Table 16-416 Event

Parameter	Type	Description
create_time	Long	Event creation time
description	String	Description
elapsed_time	Long	Event execution time
error_code	String	Error code
error_message	String	Error message

Parameter	Type	Description
events	Array of Event objects	List of sub-events
level	Integer	Event severity
name	String	Event name
ordinal	Integer	Sequence number
parent_name	String	Parent event name
status	String	Status. Options: <ul style="list-style-type: none"> ● waiting: The event is waiting. ● running: The event is running. ● failed: The event is failed. ● success: The subtask is successfully executed.

Table 16-417 HardSelectTask

Parameter	Type	Description
create_at	Long	Task creation time
dataset_id	String	Dataset ID
dataset_name	String	Dataset name
hard_select_task_id	String	ID of selected hard example task
task_status	String	Task status
time	Long	Task execution time
update_at	Long	Task update time

Table 16-418 SampleLabels

Parameter	Type	Description
labels	Array of SampleLabel objects	List of sample labels. If this parameter is left blank, all sample labels are deleted.
metadata	SampleMetadata object	Attribute key-value pair of the sample metadata
sample_id	String	Sample ID

Parameter	Type	Description
sample_type	Integer	Sample type. Options: <ul style="list-style-type: none"> ● 0: image ● 1: text ● 2: audio ● 4: table ● 6: video ● 9: free format
sample_usage	String	Sample usage. Options: <ul style="list-style-type: none"> ● TRAIN: training ● EVAL: validation ● TEST: test ● INFERENCE: inference
source	String	Source address of sample data, which can be obtained by calling the sample list API.
worker_id	String	ID of a labeling team member

Table 16-419 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: <ul style="list-style-type: none"> ● human: manual labeling ● auto: auto labeling
id	String	Label ID
name	String	Label name
property	SampleLabel Property object	Attribute key-value pair of the sample label, such as the object shape and shape feature
score	Float	Confidence. The value ranges from 0 to 1 .

Parameter	Type	Description
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-420 SampleLabelProperty

Parameter	Type	Description
@modelarts:content	String	Speech text content, which is a default attribute dedicated to the speech label (including the speech content and speech start and end points)
@modelarts:end_index	Integer	End position of the text, which is a default attribute dedicated to the named entity label. The end position does not include the character corresponding to the value of end_index . Examples: <ul style="list-style-type: none"> ● If the text is "Barack Hussein Obama II (born on August 4, 1961) is an attorney and politician.", start_index and end_index of Barack Hussein Obama II are 0 and 23, respectively. ● If the text is "Hope is the thing with feathers", start_index and end_index of Hope are 0 and 4, respectively.
@modelarts:end_time	String	Speech end time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)

Parameter	Type	Description
@modelarts:feature	Object	<p>Shape feature, which is a default attribute dedicated to the object detection label, with type of List. The upper left corner of an image is used as the coordinate origin [0, 0]. Each coordinate point is represented by [x, y]. <i>x</i> indicates the horizontal coordinate, and <i>y</i> indicates the vertical coordinate (both <i>x</i> and <i>y</i> are greater than or equal to 0). The format of each shape is as follows:</p> <ul style="list-style-type: none"> • bndbox: consists of two points, for example, [[0,10],[50,95]]. The upper left vertex of the rectangle is the first point, and the lower right vertex is the second point. That is, the <i>x</i>-coordinate of the first point must be less than the <i>x</i>-coordinate of the second point, and the <i>y</i>-coordinate of the first point must be less than the <i>y</i>-coordinate of the second point. • polygon: consists of multiple points that are connected in sequence to form a polygon, for example, [[0,100],[50,95],[10,60],[500,400]]. • circle: consists of the center and radius, for example, [[100,100],[50]]. • line: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • dashed: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • point: consists of one point, for example, [[0,100]]. • polyline: consists of multiple points, for example, [[0,100],[50,95],[10,60],[500,400]].
@modelarts:from	String	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label
@modelarts:hard	String	<p>Whether the sample is labeled as a hard example, which is a default attribute. Options:</p> <ul style="list-style-type: none"> • 0/false: The label is not a hard example. • 1/true: The label is a hard example.
@modelarts:hard_coefficient	String	Coefficient of difficulty of each label level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	String	<p>Reasons why the sample is a hard example, which is a default attribute. Use a hyphen (-) to separate every two hard example reason IDs, for example, 3-20-21-19. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on flplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:shape	String	Object shape, which is a default attribute dedicated to the object detection label and is left empty by default. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dashed line • point: point • polyline: polyline
@modelarts:speech_source	String	Speech source, which is a default attribute dedicated to the speech start/end point label and can be set to a speaker or narrator
@modelarts:start_index	Integer	Start position of the text, which is a default attribute dedicated to the named entity label. The start value begins from 0, including the character corresponding to the value of start_index .
@modelarts:start_time	String	Speech start time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:triplet_label	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 16-421 SampleMetadata

Parameter	Type	Description
@modelarts:import_origin	Integer	Sample source, which is a default attribute.
@modelarts:hard	Double	Whether the sample is labeled as a hard sample, which is a default attribute. Options: <ul style="list-style-type: none"> • 0: The label is not a hard example. • 1: The label is a hard example.
@modelarts:hard_coefficient	Double	Coefficient of difficulty of each sample level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	<p>ID of a hard example reason, which is a default attribute. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on fliplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:size	Array of objects	image size, including width, height, and depth. The type is List[/topic/body/section/table/tgroup/tbody/row/entry/p/br. {""}] (br). In the list, the first number indicates the width (pixels), the second number indicates the height (pixels), and the third number indicates the depth (the depth can be left blank and the default value is 3). For example, [100,200,3] and [100,200] are both valid. Note: This parameter is mandatory only when the sample label list contains the object detection label.

Request Example

Run the following command to obtain auto labeling or auto grouping tasks by page:

```
GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/tasks?offset=0&limit=10
```

Response Example

Status code: 200

OK

```
{
  "tasks": [ {
    "dataset_id": "OBegCXHxTJ2JHRAZWr0",
    "task_id": "14cyxyu6UXaNT3lrPFL",
    "type": 1,
    "create_time": "2020-11-03 15:22:39",
    "status": 3,
    "code": "ModelArts.4996",
    "message": "prelabel task execute successfully.",
    "elapsed_time": 531,
    "result": {
      "service_id": "ee2ade80-0967-4ef3-b6da-e8c873017b9a",
      "service_name": "prelabel_infer_1604388201993_xubo_cls_snt9_2_993",
      "hard_select_tasks": [ {
        "hard_select_task_id": "86711ab3-8ceb-4b0e-bd52-8545b184a2a7",
        "dataset_id": "OBegCXHxTJ2JHRAZWr0",
        "dataset_name": "xubo_cls_snt9_2",
        "task_status": "import_dataset_completed",
        "time": 262,
        "create_at": 0,
        "update_at": 0
      } ]
    }
  },
  "progress": 100.0,
  "total_sample_count": 246,
  "annotated_sample_count": 38,
  "unconfirmed_sample_count": 208,
  "model_id": "c717a39f-c64f-45df-a9d3-be9ed79cdcb4",
  "model_name": "auto-deploy-50041602581620628",
  "model_version": "0.0.1",
  "config": {
    "ambiguity": false,
    "name": "5fXxR01TyUoiobqNEd9",
    "worker_server_num": 0,
  }
}
```

```

"inf_config_list" : [ {
  "specification" : "modelarts.vm.cpu.2u",
  "weight" : 0,
  "instance_count" : 1
}],
"collect_sample" : false,
"confidence_scope" : "0.0-0.5",
"algorithm_type" : "supervisory",
"image_brightness" : false,
"image_colorfulness" : false
}
}, {
"dataset_id" : "OBegCXHxTJ2JHRAZWr0",
"task_id" : "5QPy73VwnwHi5NqvbcP",
"type" : 0,
"create_time" : "2020-10-31 16:11:37",
"status" : 3,
"code" : "ModelArts.4996",
"message" : "task executed successfully.",
"elapsed_time" : 397,
"result" : {
  "train_job_name" : "BNFURaEyftGNMITaBiv",
  "train_job_id" : "74679",
  "version_id" : "89745"
},
"progress" : 100.0,
"total_sample_count" : 246,
"annotated_sample_count" : 38,
"unconfirmed_sample_count" : 198,
"model_name" : "Supervisory",
"model_version" : "0.0.1",
"config" : {
  "ambiguity" : false,
  "worker_server_num" : 0,
  "collect_sample" : false,
  "algorithm_type" : "fast",
  "image_brightness" : false,
  "image_colorfulness" : false
}
}],
"total_count" : 2,
"exist_running_deploy_task" : false
}

```

Status Code

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Code

For details, see [Error Codes](#).

16.1.65 Starting Intelligent Tasks

Function

This interface is used to start an intelligent task. Two types of intelligent tasks are supported: intelligent labeling and automatic grouping. You can specify the **task_type** parameter in the request body to start a type of tasks. For datasets whose data path or working path is in the KMS encryption bucket, active learning and automatic grouping tasks cannot be started, but pre-labeling tasks are supported.

- Intelligent Labeling allows you to select an existing model in the system for intelligent labeling based on the labeling and image learning training in the current labeling phase to quickly label the remaining images. Auto labeling includes active learning and pre-labeling. * Active learning: The system uses semi-supervised learning and hard example filtering to perform auto labeling, reducing manual labeling workload and helping you find hard examples. * Pre-labeling: You select a model on the Model Management page for auto labeling. - Auto grouping: Unlabeled images are clustered using the clustering algorithm and then processed based on the clustering result. Images can be labeled by group or cleaned.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/tasks

Table 16-422 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .

Request Parameters

Table 16-423 Request body parameters

Parameter	Mandatory	Type	Description
collect_key_sample	No	Boolean	Whether to collect key samples. Options: <ul style="list-style-type: none"> • true: Collect key samples. • false: Do not collect key samples. (Default value)
config	No	SmartTaskConfig object	Task configuration.
model_id	No	String	Model ID.
task_type	No	String	Task type. The options are as follows: - auto-label : active learning - pre-label : pre-labeling - auto-grouping : auto grouping

Table 16-424 SmartTaskConfig

Parameter	Mandatory	Type	Description
algorithm_type	No	String	Algorithm type for auto labeling. Options: <ul style="list-style-type: none"> • fast: Only labeled samples are used for training. This type of algorithm achieves faster labeling. • accurate: In addition to labeled samples, unlabeled samples are used for semi-supervised training. This type of algorithm achieves more accurate labeling.
ambiguity	No	Boolean	Whether to perform clustering based on the image blurring degree.
annotation_output	No	String	Output path of the active learning labeling result.
collect_rule	No	String	Sample collection rule. The default value is all , indicating full collection. Currently, only value all is available.

Parameter	Mandatory	Type	Description
collect_sample	No	Boolean	Whether to enable sample collection. Options: <ul style="list-style-type: none"> • true: Enable sample collection. (Default value) • false: Do not enable sample collection.
confidence_scope	No	String	Confidence range of key samples. The minimum and maximum values are separated by hyphens (-). Example: 0.10-0.90.
description	No	String	Task description.
engine_name	No	String	Engine name.
export_format	No	Integer	Format of the exported directory. Options: <ul style="list-style-type: none"> • 1: tree structure. Example: rabbits/1.jpg,bees/2.jpg. • 2: tile structure. Example: 1.jpg, 1.txt; 2.jpg,2.txt.
export_params	No	ExportParams object	Parameters of a dataset export task.
flavor	No	Flavor object	Training resource flavor.
image_brightness	No	Boolean	Whether to perform clustering based on the image brightness.
image_colorfulness	No	Boolean	Whether to perform clustering based on the image color.
inf_cluster_id	No	String	ID of a dedicated cluster. This parameter is left blank by default, indicating that a dedicated cluster is not used. When using the dedicated cluster to deploy services, ensure that the cluster status is normal. After this parameter is set, the network configuration of the cluster is used, and the vpc_id parameter does not take effect.

Parameter	Mandatory	Type	Description
inf_config_list	No	Array of InfConfig objects	Configuration list required for running an inference task, which is optional and left blank by default.
inf_output	No	String	Output path of inference in active learning.
infer_result_output_dir	No	String	OBS directory for storing sample prediction results. This parameter is optional. The {service_id}-infer-result subdirectory in the output_dir directory is used by default.
key_sample_output	No	String	Output path of hard examples in active learning.
log_url	No	String	OBS URL of the logs of a training job. By default, this parameter is left blank.
manifest_path	No	String	Path of the manifest file, which is used as the input for training and inference.
model_id	No	String	Model ID.
model_name	No	String	Model name.
model_parameter	No	String	Model parameter.
model_version	No	String	Model version.
n_clusters	No	Integer	Number of clusters.
name	No	String	Task name.
output_dir	No	String	Sample output path. The format is as follows: <i>Dataset output path/Dataset name-Dataset ID/annotation/auto-deploy/</i> . Example: /test/work_1608083108676/dataset123-g6IO9qSu6hoxwCAirfm/annotation/auto-deploy/ .
parameters	No	Array of TrainingParameter objects	Runtime parameters of a training job
pool_id	No	String	ID of a resource pool.

Parameter	Mandatory	Type	Description
property	No	String	Attribute name.
req_uri	No	String	Inference path of a batch job.
result_type	No	Integer	Processing mode of auto grouping results. Options: <ul style="list-style-type: none"> • 0: Save to OBS. • 1: Save to samples.
samples	No	Array of SampleLabels objects	List of labeling information for samples to be auto labeled.
stop_time	No	Integer	Timeout interval, in minutes. The default value is 15 minutes. This parameter is used only in the scenario of auto labeling for videos.
time	No	String	Timestamp in active learning.
train_data_path	No	String	Path for storing existing training datasets.
train_url	No	String	URL of the OBS path where the file of a training job is outputted. By default, this parameter is left blank.
version_format	No	String	Format of a dataset version. Options: <ul style="list-style-type: none"> • Default: default format • CarbonData: CarbonData (supported only by table datasets) • CSV: CSV
worker_server_num	No	Integer	Number of workers in a training job.

Table 16-425 ExportParams

Parameter	Mandatory	Type	Description
clear_hard_property	No	Boolean	Whether to clear hard example attributes. Options: <ul style="list-style-type: none"> • true: Clear hard example attributes. (Default value) • false: Do not clear hard example attributes.
export_dataset_version_format	No	String	Format of the dataset version to which data is exported.
export_dataset_version_name	No	String	Name of the dataset version to which data is exported.
export_dest	No	String	Dataset export type. The options are as follows: <ul style="list-style-type: none"> • DIR: Data is exported to OBS (default value). • NEW_DATASET: Export data to a new dataset.
export_new_dataset_name	No	String	Name of the new dataset to which data is exported.
export_new_dataset_work_path	No	String	Working directory of the new dataset to which data is exported.
ratio_sample_usage	No	Boolean	Whether to randomly allocate the training set and validation set based on the specified ratio. Options: <ul style="list-style-type: none"> • true: Allocate the training set and validation set. • false: Do not allocate the training set and validation set. (Default value)

Parameter	Mandatory	Type	Description
sample_state	No	String	<p>Sample status. The options are as follows:</p> <ul style="list-style-type: none"> • <code>__ALL__</code>: labeled • <code>__NONE__</code>: not marked • <code>__UNCHECK__</code>: to be accepted • <code>__ACCEPTED__</code>: The acceptance is passed. • <code>__REJECTED__</code>: rejected • <code>__UNREVIEWED__</code>: to be reviewed • <code>__REVIEWED__</code>: approved • <code>__WORKFORCE_SAMPLED__</code>: sampled • <code>__WORKFORCE_SAMPLED_UNCHECK__</code>: Sampling is to be accepted. • <code>__WORKFORCE_SAMPLED_CHECKED__</code>: Sampling has been accepted. • <code>__WORKFORCE_SAMPLED_ACCEPTED__</code>: The sampling is passed. • <code>__WORKFORCE_SAMPLED_REJECTED__</code>: The sampling has been rejected. • <code>__AUTO_ANNOTATION__</code>: to be confirmed
samples	No	Array of strings	ID list of exported samples.
search_conditions	No	Array of SearchCondition objects	Exported search conditions. The relationship between multiple search conditions is OR.
train_sample_ratio	No	String	Split ratio of training set and verification set during specified version release. The default value is 1.00 , indicating that all released versions are training sets.

Table 16-426 SearchCondition

Parameter	Mandatory	Type	Description
coefficient	No	String	Filter by coefficient of difficulty.
frame_in_video	No	Integer	A frame in the video.
hard	No	String	Whether a sample is a hard sample. Options: <ul style="list-style-type: none"> • 0: non-hard sample • 1: hard sample
import_origin	No	String	Filter by data source.
kvp	No	String	CT dosage, filtered by dosage.
label_list	No	SearchLabels object	Label search criteria.
labeler	No	String	Labeler.
metadata	No	SearchProp object	Search by sample attribute.
parent_sample_id	No	String	Parent sample ID.
sample_dir	No	String	Directory where data samples are stored (the directory must end with a slash (/)). Only samples in the specified directory are searched for. Recursive search of directories is not supported.
sample_name	No	String	Search by sample name, including the file name extension.

Parameter	Mandatory	Type	Description
sample_time	No	String	When a sample is added to the dataset, an index is created based on the last modification time (accurate to day) of the sample on OBS. You can search for the sample based on the time. Options: <ul style="list-style-type: none"> • month: Search for samples added from 30 days ago to the current day. • day: Search for samples added from yesterday (one day ago) to the current day. • yyyyMMdd-yyyyMMdd: Search for samples added in a specified period (at most 30 days), in the format of Start date-End date. For example, 20190901-2019091501 indicates that samples generated from September 1 to September 15, 2019 are searched.
score	No	String	Search by confidence.
slice_thickness	No	String	DICOM layer thickness. Samples are filtered by layer thickness.
study_date	No	String	DICOM scanning time.
time_in_video	No	String	A time point in the video.

Table 16-427 SearchLabels

Parameter	Mandatory	Type	Description
labels	No	Array of SearchLabel objects	List of label search criteria.

Parameter	Mandatory	Type	Description
op	No	String	If you want to search for multiple labels, op must be specified. If you search for only one label, op can be left blank. Options: <ul style="list-style-type: none"> • OR: OR operation • AND: AND operation

Table 16-428 SearchLabel

Parameter	Mandatory	Type	Description
name	No	String	Label name.
op	No	String	Operation type between multiple attributes. Options: <ul style="list-style-type: none"> • OR: OR operation • AND: AND operation
property	No	Map<String,Array<String>>	Label attribute, which is in the Object format and stores any key-value pairs. key indicates the attribute name, and value indicates the value list. If value is null , the search is not performed by value. Otherwise, the search value can be any value in the list.
type	No	Integer	Label type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet relationship • 103: text triplet entity • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 600: video labeling

Table 16-429 SearchProp

Parameter	Mandatory	Type	Description
op	No	String	Relationship between attribute values. Options: <ul style="list-style-type: none"> • AND: AND relationship • OR: OR relationship
props	No	Map<String,Array<String>>	Search criteria of an attribute. Multiple search criteria can be set.

Table 16-430 Flavor

Parameter	Mandatory	Type	Description
code	No	String	Attribute code of a resource specification, which is used for task creating.

Table 16-431 InfConfig

Parameter	Mandatory	Type	Description
envs	No	Map<String,String>	(Optional) Environment variable key-value pair required for running a model. By default, this parameter is left blank. To ensure data security, do not enter sensitive information in environment variables.
instance_count	No	Integer	Instance number of model deployment, that is, the number of compute nodes.
model_id	No	String	Model ID.
specification	No	String	Resource specifications of real-time services. For details, see Deploying Services .
weight	No	Integer	Traffic weight allocated to a model. This parameter is mandatory only when infer_type is set to real-time . The sum of the weights must be 100 .

Table 16-432 TrainingParameter

Parameter	Mandatory	Type	Description
label	No	String	Parameter name.
value	No	String	Parameter value.

Table 16-433 SampleLabels

Parameter	Mandatory	Type	Description
labels	No	Array of SampleLabel objects	Sample label list. If this parameter is left blank, all sample labels are deleted.
metadata	No	SampleMetadata object	Key-value pair of the sample metadata attribute.
sample_id	No	String	Sample ID.
sample_type	No	Integer	Sample type. Options: <ul style="list-style-type: none"> ● 0: image ● 1: text ● 2: speech ● 4: table ● 6: video ● 9: custom format
sample_usage	No	String	Sample usage. Options: <ul style="list-style-type: none"> ● TRAIN: training ● EVAL: evaluation ● TEST: test ● INFERENCE: inference
source	No	String	Source address of sample data, which is obtained by invoking the sample list interface.
worker_id	No	String	ID of a labeling team member.

Table 16-434 SampleLabel

Parameter	Mandatory	Type	Description
annotated_by	No	String	Video labeling method, which is used to distinguish whether a video is labeled manually or automatically. Options: <ul style="list-style-type: none"> • human: manual labeling • auto: automatic labeling
id	No	String	Label ID.
name	No	String	Label name.
property	No	SampleLabel Property object	Attribute key-value pair of the sample label, such as the object shape and shape feature.
score	No	Float	Confidence. The value range is [0,1].
type	No	Integer	Label type. Options: <ul style="list-style-type: none"> • 0: image classification • 1: object detection • 3: image segmentation • 100: text classification • 101: named entity recognition • 102: text triplet relationship • 103: text triplet entity • 200: sound classification • 201: speech content • 202: speech paragraph labeling • 600: video labeling

Table 16-435 SampleLabelProperty

Parameter	Mandatory	Type	Description
@modelarts:content	No	String	Speech text content, which is a default attribute dedicated to the speech label (including the speech content and speech start and end points).

Parameter	Mandatory	Type	Description
@modelarts:end_index	No	Integer	<p>End position of the text, which is a default attribute dedicated to the named entity label. The end position does not include the character corresponding to the value of end_index.</p> <p>Example:</p> <ul style="list-style-type: none"> • If the text is "Barack Hussein Obama II (born August 4, 1961) is an attorney and politician.", start_index and end_index of Barack Hussein Obama II are 0 and 23, respectively. • If the text is "Hope is the thing with feathers", start_index and end_index of Hope are 0 and 4, respectively.
@modelarts:end_time	No	String	<p>Speech end time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)</p>

Parameter	Mandatory	Type	Description
@modelarts:feature	No	Object	<p>Shape feature, which is a default attribute dedicated to the object detection label, with type of List. The upper left corner of the image is used as the coordinate origin [0, 0]. Each coordinate point is represented by [x, y], where x indicates the horizontal coordinate and y indicates the vertical coordinate (both x and y are >=0). The format of each shape is as follows:</p> <ul style="list-style-type: none"> • bndbox consists of two points, for example, [[0,10],[50,95]]. The upper left vertex of the rectangle is the first point, and the lower right vertex is the second point. That is, the x-coordinate of the first point must be less than the x-coordinate of the second point, and the y-coordinate of the first point must be less than the y-coordinate of the second point. • polygon: consists of multiple points that are connected in sequence to form a polygon, for example, [[0,100],[50,95],[10,60],[500,400]]. • circle: consists of the center and radius, for example, [[100,100],[50]]. • line: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • dashed: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • point: consists of one point, for example, [[0,100]]. • polyline: consists of multiple points, for example, [[0,100],[50,95],[10,60],[500,400]].
@modelarts:from	No	String	ID of the head entity in the triplet relationship label, which is a default attribute dedicated to the triplet relationship label.
@modelarts:hard	No	String	Sample labeled as a hard sample or not, which is a default attribute. Options: <ul style="list-style-type: none"> • 0/false: not a hard example • 1/true: hard example
@modelarts:hard_coefficient	No	String	Coefficient of difficulty of each label level, which is a default attribute. The value range is [0,1] .

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	String	<p>Reasons that the sample is a hard sample, which is a default attribute. Use a hyphen (-) to separate every two hard sample reason IDs, for example, 3-20-21-19. Options:</p> <ul style="list-style-type: none"> ● 0: No target objects are identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data enhancement result based on

Parameter	Mandatory	Type	Description
			<p>GaussianBlur is inconsistent with the prediction result of the original image.</p> <ul style="list-style-type: none"> ● 20: The data enhancement result based on fliplr is inconsistent with the prediction result of the original image. ● 21: The data enhancement result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data enhancement result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data enhancement result based on scale is inconsistent with the prediction result of the original image. ● 24: The data enhancement result based on translate is inconsistent with the prediction result of the original image. ● 25: The data enhancement result based on shear is inconsistent with the prediction result of the original image. ● 26: The data enhancement result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data enhancement result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data enhancement result based on add is inconsistent with the prediction result of the original image.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● 29: The data enhancement result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.
@modelarts:shape	No	String	<p>Object shape, which is a default attribute dedicated to the object detection label and is left empty by default.</p> <p>Options:</p> <ul style="list-style-type: none"> ● bndbox: rectangle ● polygon: polygon ● circle: circle ● line: straight line ● dashed: dotted line ● point: point ● polyline: polyline
@modelarts:speech_source	No	String	Speech source, which is a default attribute dedicated to the speech start/end point label and can be set to a speaker or narrator.
@modelarts:start_index	No	Integer	Start position of the text, which is a default attribute dedicated to the named entity label. The start value begins from 0, including the character corresponding to the value of start_index .
@modelarts:start_time	No	String	Speech start time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS . (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:tail_id	No	String	ID of the tail entity in the triplet relationship label, which is a default attribute dedicated to the triplet relationship label.

Table 16-436 SampleMetadata

Parameter	Mandatory	Type	Description
@modelarts:import_origin	No	Integer	Sample source, which is a built-in attribute.
@modelarts:hard	No	Double	Whether the sample is labeled as a hard sample, which is a default attribute. Options: <ul style="list-style-type: none"> • 0: non-hard sample • 1: hard sample
@modelarts:hard_coefficient	No	Double	Coefficient of difficulty of each sample level, which is a default attribute. The value range is [0,1] .

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	Array of integers	<p>ID of a hard sample reason, which is a default attribute. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data enhancement result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data enhancement result based on fliplr is

Parameter	Mandatory	Type	Description
			<p>inconsistent with the prediction result of the original image.</p> <ul style="list-style-type: none"> ● 21: The data enhancement result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data enhancement result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data enhancement result based on scale is inconsistent with the prediction result of the original image. ● 24: The data enhancement result based on translate is inconsistent with the prediction result of the original image. ● 25: The data enhancement result based on shear is inconsistent with the prediction result of the original image. ● 26: The data enhancement result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data enhancement result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data enhancement result based on add is inconsistent with the prediction result of the original image. ● 29: The data enhancement result based on invert is inconsistent with the prediction result of the original image.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> 30: The data is predicted to be abnormal.
@modelarts:size	No	Array of objects	Image size (width, height, and depth of the image), which is a default attribute, with type of List<Integer> . In the list, the first number indicates the width (pixels), the second number indicates the height (pixels), and the third number indicates the depth (the depth can be left blank and the default value is 3). For example, [100,200,3] and [100,200] are both valid. Note: This parameter is mandatory only when the sample label list contains the object detection label.

Response Parameters

Status code: 200

Table 16-437 Response body parameters

Parameter	Type	Description
task_id	String	Task ID.

Example Requests

- The following is an example of how to start an auto labeling (active learning) task. The task type has been set to **auto-label**.

```
{
  "task_type": "auto-label",
  "collect_key_sample": true,
  "config": {
    "algorithm_type": "fast"
  }
}
```

- The following is an example of how to start an auto labeling (pre-labeling) task. The task type has been set to **pre-label**.

```
{
  "task_type": "pre-label",
  "model_id": "c4989033-7584-44ee-a180-1c476b810e46",
  "collect_key_sample": true,
  "config": {
    "inf_config_list": [ {
      "specification": "modelarts.vm.cpu.2u",

```

```

        "instance_count" : 1
      }
    ]
  }
}

```

- The following is an example of how to start an auto grouping task. The task type has been set to **auto-grouping**.

```

{
  "task_type" : "auto-grouping",
  "config" : {
    "n_clusters" : "2",
    "ambiguity" : false,
    "image_brightness" : false,
    "image_colorfulness" : false,
    "property" : "size",
    "result_type" : 1
  }
}

```

Example Responses

Status code: 200

OK

```

{
  "task_id" : "r0jT2zwxBDKf8KEnSuZ"
}

```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.66 Obtaining Details About an Auto Labeling Task

Function

Obtain details about an auto labeling task, including auto labeling and auto grouping tasks. You can specify the **task_id** parameter to obtain the details about a specific task.

Debugging

You can debug this API in [API Explorer](#) which supports automatic authentication. API Explorer can automatically generate SDK code examples and provide the SDK code example debugging.

URI

GET /v2/{project_id}/datasets/{dataset_id}/tasks/{task_id}

Table 16-438 URI parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID
project_id	Yes	String	Project ID. For details, see Obtaining a Project ID and Name .
task_id	Yes	String	Task ID

Request Parameters

None

Response Parameters

Status code: 200

Table 16-439 Response body parameters

Parameter	Type	Description
code	String	Task running status code
config	SmartTaskConfig object	Task configuration
create_time	String	Task creation time
elapsed_time	Long	Execution time
error_code	String	Error code
error_detail	String	Error details
error_msg	String	Error message
message	String	Task running information.
progress	Float	Percentage of current task progress.
resource_id	String	Resource ID.

Parameter	Type	Description
result	Result object	Task result.
status	Integer	Task status. Options: <ul style="list-style-type: none"> • -1: queuing • 0: initializing • 1: running • 2: failed • 3: succeeded • 4: stopping • 5: stopped
task_id	String	Task ID
task_name	String	Task name
export_type	Integer	Export type. Options: Options: <ul style="list-style-type: none"> • 0: Export to OBS. • 1: Export to sample attributes.

Table 16-440 SmartTaskConfig

Parameter	Type	Description
algorithm_type	String	Algorithm type for auto labeling. Options: <ul style="list-style-type: none"> • fast: Only labeled samples are used for training. • accurate: Unlabeled samples are also used for semi-supervised training.
ambiguity	Boolean	Whether to perform clustering based on the image blurring degree.
annotation_output	String	Output path of the active learning labeling result
collect_rule	String	Sample collection rule. The default value is all , indicating full collection. Only all is available.
collect_sample	Boolean	Whether to enable sample collection. Options: <ul style="list-style-type: none"> • true: Sample collection is enabled. (Default) • false: Sample collection is disabled.
confidence_scope	String	Confidence range of key samples. The minimum and maximum values are separated by hyphens (-). Example: 0.10-0.90.
description	String	Job description

Parameter	Type	Description
engine_name	String	Engine name
export_format	Integer	Format of the exported directory. Options: <ul style="list-style-type: none"> • 1: tree structure, for example, rabbits/1.jpg,bees/2.jpg. • 2: tile structure, for example, 1.jpg, 1.txt; 2.jpg, 2.txt
export_params	ExportParams object	Parameters of a dataset export task
flavor	Flavor object	Training resource flavor
image_brightness	Boolean	Whether to perform clustering based on the image brightness
image_colorfulness	Boolean	Whether to perform clustering based on the image color
inf_cluster_id	String	ID of a dedicated cluster. This parameter is left blank by default, indicating that a dedicated cluster is not used. When using a dedicated cluster to deploy services, ensure that the cluster status is normal. After this parameter is set, the network configuration of the cluster is used, and the vpc_id parameter does not take effect.
inf_config_list	Array of InfConfig objects	Configuration list required for running an inference job, which is optional and left blank by default
inf_output	String	Output path of inference in active learning
infer_result_output_dir	String	OBS directory for storing sample prediction results. This parameter is optional. The {service_id}-infer-result subdirectory in the output_dir directory is used by default.
key_sample_output	String	Output path of hard examples in active learning
log_url	String	OBS URL of the logs of a training job. By default, this parameter is left blank.
manifest_path	String	Path of the manifest file, which is used as the input for training and inference
model_id	String	Model ID
model_name	String	Model name
model_parameters	String	Model parameters

Parameter	Type	Description
model_version	String	Model version
n_clusters	Integer	Number of clusters
name	String	Task name
output_dir	String	Sample output path. The format is as follows: <i>Dataset output path/Dataset name-Dataset ID/annotation/auto-deploy/</i> . Example: /test/work_1608083108676/dataset123-g6lO9qSu6hoxwCAirm/annotation/auto-deploy/ .
parameters	Array of TrainingParameter objects	Running parameters of a training job
pool_id	String	Resource pool ID
property	String	Attribute name
req_uri	String	Inference path of a batch job
result_type	Integer	Processing mode of auto grouping results. Options: <ul style="list-style-type: none"> ● 0: The results are saved to OBS. ● 1: The results are saved to samples.
samples	Array of SampleLabels objects	Labeling information for samples to be auto labeled
stop_time	Integer	Timeout interval, in minutes. The default value is 15 minutes. This parameter is used only in the scenario of auto labeling for videos.
time	String	Timestamp in active learning
train_data_path	String	Path for storing existing training datasets
train_url	String	OBS URL of the output file of a training job. By default, this parameter is left blank.
version_format	String	Format of a dataset version. Options: <ul style="list-style-type: none"> ● Default ● CarbonData (supported only by table datasets) ● CSV
worker_server_num	Integer	Number of workers in a training job

Table 16-441 ExportParams

Parameter	Type	Description
clear_hard_property	Boolean	Whether to clear hard example attributes. Options: <ul style="list-style-type: none"> ● true: Hard example attributes are cleared. (Default) ● false: Hard example attributes are not cleared.
export_dataset_version_format	String	Format of the dataset version to be exported
export_dataset_version_name	String	Name of the dataset version to be exported
export_dest	String	Dataset export type. Options: <ul style="list-style-type: none"> ● DIR: Export to OBS. (default) ● NEW_DATASET: Export to a new dataset.
export_new_dataset_name	String	Name of the new dataset to which data is exported
export_new_dataset_work_path	String	Working directory of the new dataset to which data is exported
ratio_sample_usage	Boolean	Whether to randomly allocate data to the training and validation datasets based on the specified ratio. Options: <ul style="list-style-type: none"> ● true: The data is randomly allocated to the training and validation datasets. ● false: The data is not randomly allocated to the training and validation datasets. (Default)

Parameter	Type	Description
sample_state	String	Sample status. Options: <ul style="list-style-type: none"> • __ALL__: labeled • __NONE__: unlabeled • __UNCHECK__: to be accepted • __ACCEPTED__: accepted • __REJECTED__: rejected • __UNREVIEWED__: to be reviewed • __REVIEWED__: reviewed • __WORKFORCE_SAMPLED__: sampled • __WORKFORCE_SAMPLED_UNCHECK__: sampling pending check • __WORKFORCE_SAMPLED_CHECKED__: sampling checked • __WORKFORCE_SAMPLED_ACCEPTED__: sampling accepted • __WORKFORCE_SAMPLED_REJECTED__: sampling rejected • __AUTO_ANNOTATION__: to be confirmed
samples	Array of strings	ID list of exported samples
search_conditions	Array of SearchCondition objects	Exported search criteria. Multiple search criteria are in the OR relationship.
train_sample_ratio	String	Split ratio of training and validation datasets for specified version release. The default value is 1.00 , indicating that all data is allocated to the training dataset.

Table 16-442 SearchCondition

Parameter	Type	Description
coefficient	String	Filter by difficulty coefficient
frame_in_video	Integer	A frame in the video
hard	String	Whether a sample is a hard example. Options: <ul style="list-style-type: none"> • 0: The label is not a hard example. • 1: The label is a hard example.
import_origin	String	Filter by data source

Parameter	Type	Description
kvp	String	CT dosage, filtered by dosage.
label_list	SearchLabels object	Label search criteria
labeler	String	Annotator
metadata	SearchProp object	Search by sample attribute
parent_sample_id	String	Parent sample ID
sample_dir	String	Directory where samples are stored (the directory must end with a slash (/)). Only samples in the specified directory are searched for. Recursive search of directories is not supported.
sample_name	String	Search by sample name, including the file name extension
sample_time	String	When a sample is added to the dataset, an index is created based on the last modification time (accurate to day) of the sample on OBS. You can search for the sample based on the time. Options: <ul style="list-style-type: none"> ● month: Search for samples added in the last 30 days ● day: Search for samples added from yesterday (one day before) to today. ● yyyyMMdd-yyyyMMdd: Search for samples added in a specified period. The format is <i>Start date-End date</i>. Maximum number of days for the search: 30. For example, 20190901-2019091501 indicates that samples generated from September 1 to September 15, 2019 are searched for.
score	String	Search by confidence
slice_thickness	String	DICOM layer thickness. Samples are filtered by layer thickness.
study_date	String	DICOM scanning time
time_in_video	String	A time point in the video

Table 16-443 SearchLabels

Parameter	Type	Description
labels	Array of SearchLabel objects	Label search criteria
op	String	If you want to search for multiple labels, op must be specified. If you search for only one label, op can be left blank. Options: <ul style="list-style-type: none"> ● OR: OR operation ● AND: AND operation

Table 16-444 SearchLabel

Parameter	Type	Description
name	String	Label name
op	String	Operation type between multiple attributes. Options: <ul style="list-style-type: none"> ● OR: OR operation ● AND: AND operation
property	Map<String,Array<String>>	Label attribute, which is in the Object format and stores any key-value pairs. key indicates the attribute name, and value indicates the value list. If value is null , the search is not performed by value. Otherwise, the search value can be any value in the list.
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-445 SearchProp

Parameter	Type	Description
op	String	Relationship between attribute values. Options: <ul style="list-style-type: none"> • AND: AND relationship • OR: OR relationship
props	Map<String,Array<String>>	Search criteria of an attribute. Multiple search criteria can be set.

Table 16-446 Flavor

Parameter	Type	Description
code	String	Attribute code of a resource specification, which is used for task creating

Table 16-447 InfConfig

Parameter	Type	Description
envs	Map<String,String>	Environment variable key-value pair required for running a model. This parameter is optional. By default, it is left blank. To ensure data security, do not enter sensitive information in environment variables.
instance_count	Integer	Number of instances (compute nodes) for deploying a model
model_id	String	Model ID
specification	String	Resource specifications of real-time services. For details, see Deploying a Service .
weight	Integer	Traffic weight allocated to a model. This parameter is mandatory only when infer_type is set to real-time . The sum of the weights must be 100.

Table 16-448 TrainingParameter

Parameter	Type	Description
label	String	Parameter name
value	String	Parameter value

Table 16-449 Result

Parameter	Type	Description
annotated_sample_count	Integer	Number of labeled samples.
confidence_scope	String	Confidence. The value ranges from 0 to 1 .
dataset_name	String	Dataset name, which can contain 1 to 100 characters. Only letters, digits, underscores (_), and hyphens (-) are allowed.
dataset_type	String	Dataset type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 400: table dataset ● 600: video labeling ● 900: free format
description	String	Result description
dlf_model_job_name	String	DLF model inference job name
dlf_service_job_name	String	DLF real-time service job name
dlf_train_job_name	String	DLF training job name
events	Array of Event objects	Event
hard_example_path	String	Path for storing hard examples
hard_select_tasks	Array of HardSelectTask objects	List of selected hard example jobs
manifest_path	String	Path for storing the manifest files
model_id	String	Model ID

Parameter	Type	Description
model_name	String	Model name
model_version	String	Model version
samples	Array of SampleLabels objects	Inference result of the real-time video service.
service_id	String	Real-time service ID
service_name	String	Real-time service name
service_resource	String	ID of the real-time service bound to a user.
total_sample_count	Integer	Total number of samples
train_data_path	String	Path for storing training data
train_job_id	String	Training job ID
train_job_name	String	Training job name
unconfirmed_sample_count	Integer	Number of samples to be confirmed
version_id	String	Dataset version ID
version_name	String	Dataset version name
workspace_id	String	Workspace ID. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.

Table 16-450 Event

Parameter	Type	Description
create_time	Long	Event creation time
description	String	Event description
elapsed_time	Long	Time when an event is executed
error_code	String	Error code
error_message	String	Error message

Parameter	Type	Description
events	Array of Event objects	List of sub-events
level	Integer	Event severity.
name	String	Event name
ordinal	Integer	Sequence number.
parent_name	String	Parent event name.
status	String	Event status. Options: <ul style="list-style-type: none"> ● waiting: DCS instance restoration is waiting to begin. ● running ● failed: indicates that a job fails to be processed. ● success: The subtask is successfully executed.

Table 16-451 HardSelectTask

Parameter	Type	Description
create_at	Long	Task creation time
dataset_id	String	Dataset ID
dataset_name	String	Dataset name
hard_select_task_id	String	ID of selected hard example task
task_status	String	Task status
time	Long	Execution time
update_at	Long	Task update time

Table 16-452 SampleLabels

Parameter	Type	Description
labels	Array of SampleLabel objects	List of sample labels. If this parameter is left blank, all sample labels are deleted.
metadata	SampleMetadata object	Attribute key-value pair of the sample metadata

Parameter	Type	Description
sample_id	String	Sample ID
sample_type	Integer	Sample type. Options: <ul style="list-style-type: none"> ● 0: image ● 1: text ● 2: audio ● 4: table ● 6: video ● 9: free format
sample_usage	String	Sample usage. Options: <ul style="list-style-type: none"> ● TRAIN: training ● EVAL: validation ● TEST: test ● INFERENCE: inference
source	String	Source address of sample data, which can be obtained by calling the sample list API.
worker_id	String	ID of a labeling team member

Table 16-453 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: <ul style="list-style-type: none"> ● human: manual labeling ● auto: auto labeling
id	String	Label ID
name	String	Label name
property	SampleLabel Property object	Attribute key-value pair of the sample label, such as the object shape and shape feature
score	Float	Confidence. The value ranges from 0 to 1 .

Parameter	Type	Description
type	Integer	Label type. Options: <ul style="list-style-type: none"> ● 0: image classification ● 1: object detection ● 3: image segmentation ● 100: text classification ● 101: named entity recognition ● 102: text triplet relationship ● 103: text triplet entity ● 200: sound classification ● 201: speech content ● 202: speech paragraph labeling ● 600: video labeling

Table 16-454 SampleLabelProperty

Parameter	Type	Description
@modelarts:content	String	Speech text content, which is a default attribute dedicated to the speech label (including the speech content and speech start and end points)
@modelarts:end_index	Integer	End position of the text, which is a default attribute dedicated to the named entity label. The end position does not include the character corresponding to the value of end_index . Examples: <ul style="list-style-type: none"> ● If the text is "Barack Hussein Obama II (born on August 4, 1961) is an attorney and politician.", the start_index and end_index of Barack Hussein Obama II are 0 and 23, respectively. ● If the text is "Hope is the thing with feathers", start_index and end_index of Hope are 0 and 4, respectively.
@modelarts:end_time	String	Speech end time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)

Parameter	Type	Description
@modelarts:feature	Object	<p>Shape feature, which is a default attribute dedicated to the object detection label, with type of List. The upper left corner of an image is used as the coordinate origin [0, 0]. Each coordinate point is represented by [x, y]. <i>x</i> indicates the horizontal coordinate, and <i>y</i> indicates the vertical coordinate (both <i>x</i> and <i>y</i> are greater than or equal to 0). The format of each shape is as follows:</p> <ul style="list-style-type: none"> • bndbox: consists of two points, for example, [[0,10],[50,95]]. The upper left vertex of the rectangle is the first point, and the lower right vertex is the second point. That is, the <i>x</i>-coordinate of the first point must be less than the <i>x</i>-coordinate of the second point, and the <i>y</i>-coordinate of the first point must be less than the <i>y</i>-coordinate of the second point. • polygon: consists of multiple points that are connected in sequence to form a polygon, for example, [[0,100],[50,95],[10,60],[500,400]]. • circle: consists of the center and radius, for example, [[100,100],[50]]. • line: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • dashed: consists of two points, for example, [[0,100],[50,95]]. The first point is the start point, and the second point is the end point. • point: consists of one point, for example, [[0,100]]. • polyline: consists of multiple points, for example, [[0,100],[50,95],[10,60],[500,400]].
@modelarts:from	String	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label
@modelarts:hard	String	<p>Whether the sample is labeled as a hard example, which is a default attribute. Options:</p> <ul style="list-style-type: none"> • 0/false: The label is not a hard example. • 1/true: The label is a hard example.
@modelarts:hard_coefficient	String	Coefficient of difficulty of each label level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	String	<p>Reasons why the sample is a hard example, which is a default attribute. Use a hyphen (-) to separate every two hard example reason IDs, for example, 3-20-21-19. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset. ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on flplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:shape	String	Object shape, which is a default attribute dedicated to the object detection label and is left empty by default. Options: <ul style="list-style-type: none"> • bndbox: rectangle • polygon: polygon • circle: circle • line: straight line • dashed: dashed line • point: point • polyline: polyline
@modelarts:speech_source	String	Speech source, which is a default attribute dedicated to the speech start/end point label and can be set to a speaker or narrator
@modelarts:start_index	Integer	Start position of the text, which is a default attribute dedicated to the named entity label. The start value begins from 0, including the character corresponding to the value of start_index .
@modelarts:start_time	String	Speech start time, which is a default attribute dedicated to the speech start/end point label, in the format of hh:mm:ss.SSS. (hh indicates hour; mm indicates minute; ss indicates second; and SSS indicates millisecond.)
@modelarts:triplet_label	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 16-455 SampleMetadata

Parameter	Type	Description
@modelarts:import_origin	Integer	Sample source, which is a default attribute.
@modelarts:hard	Double	Whether the sample is labeled as a hard sample, which is a default attribute. Options: <ul style="list-style-type: none"> • 0: The label is not a hard example. • 1: The label is a hard example.
@modelarts:hard_coefficient	Double	Coefficient of difficulty of each sample level, which is a default attribute. The value ranges from 0 to 1 .

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	<p>ID of a hard example reason, which is a default attribute. Options:</p> <ul style="list-style-type: none"> ● 0: No object is identified. ● 1: The confidence is low. ● 2: The clustering result based on the training dataset is inconsistent with the prediction result. ● 3: The prediction result is greatly different from the data of the same type in the training dataset. ● 4: The prediction results of multiple consecutive similar images are inconsistent. ● 5: There is a large offset between the image resolution and the feature distribution of the training dataset. ● 6: There is a large offset between the aspect ratio of the image and the feature distribution of the training dataset. ● 7: There is a large offset between the brightness of the image and the feature distribution of the training dataset. ● 8: There is a large offset between the saturation of the image and the feature distribution of the training dataset. ● 9: There is a large offset between the color richness of the image and the feature distribution of the training dataset. ● 10: There is a large offset between the definition of the image and the feature distribution of the training dataset. ● 11: There is a large offset between the number of frames of the image and the feature distribution of the training dataset. ● 12: There is a large offset between the standard deviation of area of image frames and the feature distribution of the training dataset. ● 13: There is a large offset between the aspect ratio of image frames and the feature distribution of the training dataset. ● 14: There is a large offset between the area portion of image frames and the feature distribution of the training dataset. ● 15: There is a large offset between the edge of image frames and the feature distribution of the training dataset.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● 16: There is a large offset between the brightness of image frames and the feature distribution of the training dataset. ● 17: There is a large offset between the definition of image frames and the feature distribution of the training dataset. ● 18: There is a large offset between the stack of image frames and the feature distribution of the training dataset. ● 19: The data augmentation result based on GaussianBlur is inconsistent with the prediction result of the original image. ● 20: The data augmentation result based on fliplr is inconsistent with the prediction result of the original image. ● 21: The data augmentation result based on Crop is inconsistent with the prediction result of the original image. ● 22: The data augmentation result based on flipud is inconsistent with the prediction result of the original image. ● 23: The data augmentation result based on scale is inconsistent with the prediction result of the original image. ● 24: The data augmentation result based on translate is inconsistent with the prediction result of the original image. ● 25: The data augmentation result based on shear is inconsistent with the prediction result of the original image. ● 26: The data augmentation result based on superpixels is inconsistent with the prediction result of the original image. ● 27: The data augmentation result based on sharpen is inconsistent with the prediction result of the original image. ● 28: The data augmentation result based on add is inconsistent with the prediction result of the original image. ● 29: The data augmentation result based on invert is inconsistent with the prediction result of the original image. ● 30: The data is predicted to be abnormal.

Parameter	Type	Description
@modelarts:size	Array of objects	image size, including width, height, and depth. The type is List[/topic/body/section/table/tgroup/tbody/row/entry/p/br. {""}] (br]. In the list, the first number indicates the width (pixels), the second number indicates the height (pixels), and the third number indicates the depth (the depth can be left blank and the default value is 3). For example, [100,200,3] and [100,200] are both valid. Note: This parameter is mandatory only when the sample label list contains the object detection label.

Request Example

Run the following command to obtain details about an auto labeling task:

```
GET https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/tasks/{task_id}
```

Response Example

Status code: 200

OK

```
{
  "resource_id" : "XGrRZuCV1qmMxnsMD5u",
  "create_time" : "2020-11-23 11:08:20",
  "progress" : 10.0,
  "status" : 1,
  "message" : "Start to export annotations. Export task id is jMZGm2SBp4Ymr2wrhAK",
  "code" : "ModelArts.4902",
  "elapsed_time" : 0,
  "result" : {
    "total_sample_count" : 49,
    "annotated_sample_count" : 30
  },
  "export_type" : 0,
  "config" : {
    "ambiguity" : false,
    "worker_server_num" : 0,
    "collect_sample" : false,
    "algorithm_type" : "fast",
    "image_brightness" : false,
    "image_colorfulness" : false
  }
}
```

Status Code

Status Code	Description
200	OK
401	Unauthorized

Status Code	Description
403	Forbidden
404	Not Found

Error Code

For details, see [Error Codes](#).

16.1.67 Stopping an Intelligent Task

Function

This interface is used to stop an intelligent task. Intelligent labeling and automatic grouping tasks can be stopped. You can specify the **task_id** parameter to stop a specific task.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/datasets/{dataset_id}/tasks/{task_id}/stop

Table 16-456 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
task_id	Yes	String	Task ID.

Request Parameters

None

Response Parameters

None

Example Requests

Stopping an Intelligent Labeling or Automatic Grouping Task

```
POST https://{endpoint}/v2/{project_id}/datasets/{dataset_id}/tasks/{task_id}/stop
```

Example Responses

Status code: 204

No Content

```
{ }
```

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.68 Querying the List of a Processing Task

Function

This API is used to obtain processing tasks, including feature analysis tasks and data processing tasks. You can specify the **task_type** parameter to obtain a specific type of tasks.

- During data feature analysis, images or target bounding boxes are analyzed based on image features, such as blurs and brightness to draw visualized curves to assist in dataset processing.
- Data processing is used to extract valuable data from a large amount of disordered, difficult-to-understand data. Data processing includes data validation, data cleansing, data selection, and data augmentation.
- Data validation indicates that the dataset is verified to ensure data accuracy.
- Data cleansing refers to the process of denoising, correcting, or supplementing data.
- Data selection indicates the process of selecting data subsets from full data.
- Data augmentation indicates that data volume is increased through simple data amplification operations such as scaling, cropping, transformation, and composition.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/processor-tasks

Table 16-457 Path Parameters

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

Table 16-458 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of records returned on each page. The value ranges from 1 to 100. The default value is 10 .
offset	No	Integer	Start page of the paging list. The default value is 0 .
order	No	String	Sorting sequence of the query. Options: <ul style="list-style-type: none"> • asc: ascending order • desc: descending order (default value)
query_current	No	Boolean	Whether to query only the latest tasks of dataset version. Options: <ul style="list-style-type: none"> • true: Query only the latest tasks of the dataset version. • false: Query all tasks of the dataset version. (Default value)

Parameter	Mandatory	Type	Description
return_result	No	Boolean	Whether to return the task result. Options: <ul style="list-style-type: none"> • true: Return the task result. (Default value) • false: Do not return the task result.
sort_by	No	String	Sorting mode of the query. Options: <ul style="list-style-type: none"> • create_time: Sort by creation time. (Default value) • name: Sort by task name. • duration_seconds: Sort by running time.
source	No	String	Data source path of the query. Options: <ul style="list-style-type: none"> • If type is set to OBS, source is an OBS path. • If type is set to TASK, source is a task ID. • If type is set to DATASET, source is a dataset ID. • If type is set to CUSTOM and the API is called by resource tenants, set source to the project_id of the actual user. Otherwise, this field is left blank.
source_type	No	String	Data source type of the query. If this parameter is not specified, all data sources are queried by default. Options: <ul style="list-style-type: none"> • OBS: Data obtained from OBS • TASK: Data processing task • DATASET: Dataset • CUSTOM: Data called by resource tenants

Parameter	Mandatory	Type	Description
status	No	Integer	Task status of the query. If this parameter is not specified, tasks in all states are queried by default. Options: <ul style="list-style-type: none"> • 0: initialized • 1: running • 2: completed • 3: failed • 4: stopped
task_name	No	String	Fuzzy search keyword.
task_type	No	String	Task type, which is the ID of a data processing template. Options: <ul style="list-style-type: none"> • sys_data_analyse: feature analysis • sys_data_cleaning: data cleansing • sys_data_augmentation: data augmentation • sys_data_validation: data validation • sys_data_selection: data filtering
version_id	No	Array	Version ID list of a specific dataset of the query.
workspace_id	No	String	Workspace ID. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-459 Response body parameters

Parameter	Type	Description
count	Integer	Total number of data processing tasks.

Parameter	Type	Description
tasks	Array of DescribeProcessorTaskResp objects	Data processing task list queried by page.

Table 16-460 DescribeProcessorTaskResp

Parameter	Type	Description
create_time	Long	Time when a data processing task is created.
data_source	ProcessorDataSource object	Input of a data processing task. Either this parameter or inputs is delivered.
description	String	Description of a data processing task.
duration_seconds	Integer	Running time of data processing, in seconds.
error_msg	String	Error message. This field is displayed when the value of status is 3 .
inputs	Array of ProcessorDataSource objects	Input channel list of a data processing task. Either this parameter or data_source is delivered.
is_current	Boolean	Whether the current task is the latest of the same type of this version.
name	String	Name of a data processing task.
result	Object	Output result of a data processing task. This field is displayed when status is set to 2 and is valid for a feature analysis task.
status	Integer	Status of a data processing task. Options: <ul style="list-style-type: none"> ● 0: initialized ● 1: running ● 2: completed ● 3: failed ● 4: stopped
task_id	String	ID of a data processing task.
template	TemplateParam object	Data processing template, such as the algorithm ID and parameters.
version_count	Integer	Version number of a data processing task.

Parameter	Type	Description
version_id	String	Dataset version ID corresponding to a data processing task.
version_name	String	Dataset version name corresponding to a data processing task.
work_path	WorkPath object	Working directory of a data processing task.
workspace_id	String	Workspace ID of a data processing task. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.

Table 16-461 ProcessorDataSource

Parameter	Type	Description
name	String	Dataset name.
source	String	Data source path. Options: <ul style="list-style-type: none"> • If type is set to OBS, source is an OBS path. • If type is set to TASK, source is a task ID. • If type is set to DATASET, source is a dataset ID. • If type is set to CUSTOM and the API is called by resource tenants, set source to the project_id of the actual user. Otherwise, this field is left blank.
type	String	Data source type. Options: <ul style="list-style-type: none"> • OBS: Data obtained from OBS • TASK: Data processing task • DATASET: Dataset • CUSTOM: Data called by resource tenants
version_id	String	Version of a dataset.
version_name	String	Dataset version name.

Table 16-462 TemplateParam

Parameter	Type	Description
id	String	Task type, which is the ID of a data processing template. Options: <ul style="list-style-type: none"> • sys_data_analyse: feature analysis • sys_data_cleaning: data cleansing • sys_data_augmentation: data augmentation • sys_data_validation: data validation • sys_data_selection: data filtering
name	String	Template name.
operator_params	Array of OperatorParam objects	Operator parameter list.

Table 16-463 OperatorParam

Parameter	Type	Description
advanced_params_switch	Boolean	Advanced parameter switch.
id	String	ID of an operator.
name	String	Name of an operator.
params	Object	Operator parameter. The parameter type is map<string,object>. Currently, object only supports the types of Boolean, Integer, Long, String, List and Map<String,String>. For two special scenarios of object detection and image classification in a data preprocessing task, the value of task_type is object_detection or image_classification .

Table 16-464 WorkPath

Parameter	Type	Description
name	String	Dataset name.
output_path	String	Output path, for example, /datasets/demo.

Parameter	Type	Description
path	String	Working path. Options: <ul style="list-style-type: none"> If type is set to OBS, source is an OBS path. If type is set to DATASET, source is a dataset ID.
type	String	Type of a working path. Options: <ul style="list-style-type: none"> OBS: OBS path DATASET: dataset
version_id	String	Version of a dataset.
version_name	String	Name of a dataset version. The value can contain 0 to 32 characters. Only digits, letters, underscores (_), and hyphens (-) are allowed.

Example Requests

- Querying the Historical List of Feature Analysis Tasks of a Dataset

```
GET https://{endpoint}/v2/{project_id}/processor-tasks?offset=0&limit=10&sort_by=create_time&order=desc&source_type=DATASET&source=X6c3N3eztX7cr3Arvqu&task_type=sys_data_analyse&return_result=false&query_current=false
```
- Querying the Latest Feature Analysis Task Result for the Specified Version List of a Dataset

```
GET https://{endpoint}/v2/{project_id}/processor-tasks?offset=0&limit=100&source_type=DATASET&source=X6c3N3eztX7cr3Arvqu&version_id=XwTuRq19En7xuZskW70%2CJ4Eh2FDEWH1qnD1D3hQ&task_type=sys_data_analyse&return_result=true&query_current=true
```

Example Responses

Status code: 200

OK

```
{
  "count" : 1,
  "tasks" : [ {
    "task_id" : "ddwRJeTnpj4dNUZOq",
    "name" : "V001",
    "data_source" : {
      "type" : "DATASET",
      "source" : "X6c3N3eztX7cr3Arvqu"
    },
    "inputs" : [ {
      "type" : "DATASET",
      "source" : "X6c3N3eztX7cr3Arvqu"
    } ],
    "template" : {
      "id" : "sys_data_analyse",
      "name" : "data analyse template name",
      "operator_params" : [ {
        "id" : "sys_data_analyse",
        "params" : {
          "op_list" : [ ],
          "task_type" : "image_classification",
          "manifest_path" : "s3://test-obs/classify/output/dataset-3026-X6c3N3eztX7cr3Arvqu/annotation/"
        }
      } ]
    }
  } ]
}
```



```
V001/V001.manifest",
  "file_path" : "s3://test-obs/classify/output/dataset-3026-X6c3N3eztX7cr3Arvqu/annotation/
evaluation/V001",
  "is_normed" : false
}
}]
},
"status" : 2,
"duration_seconds" : 11,
"create_time" : 1606372570023,
"version_id" : "J4Eh2FDEWH1qnDID3hQ",
"version_name" : "V001",
"is_current" : true
}]
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.69 Creating a Processing Task

Function

This API is used to create a processing task, including feature analysis tasks and data processing tasks. You can specify the **id** field of **template** composite parameter in the request body to create a task.

- During data feature analysis, images or target bounding boxes are analyzed based on image features, such as blurs and brightness to draw visualized curves to assist in dataset processing.
- Data processing is used to extract valuable data from a large amount of disordered, difficult-to-understand data. Data processing includes data validation, data cleansing, data selection, and data augmentation.
- Data validation indicates that the dataset is verified to ensure data accuracy.
- Data cleansing refers to the process of denoising, correcting, or supplementing data.
- Data selection indicates the process of selecting data subsets from full data.
- Data augmentation indicates that data volume is increased through simple data amplification operations such as scaling, cropping, transformation, and composition.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

POST /v2/{project_id}/processor-tasks

Table 16-465 Path Parameters

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

Request Parameters

Table 16-466 Request body parameters

Parameter	Mandatory	Type	Description
create_version	No	Boolean	Whether to synchronously create a task version when creating a task. Set this parameter to true only when creating a data processing task. For other types of tasks, this parameter is set to false or left blank. Options: <ul style="list-style-type: none"> true: Create a task version when creating a task. false: Do not create a task version when creating a task. (Default value)
data_source	No	ProcessorDataSource object	Data source. Either this parameter or inputs is used. A data source path cannot be an OBS path in a KMS-encrypted bucket.
description	No	String	Description of a data processing task. The description contains 0 to 256 characters and does not support the following special characters: ^!<>=&"

Parameter	Mandatory	Type	Description
inputs	No	Array of ProcessorDataSource objects	Data sources. Either this parameter or data_source is used. A data source path cannot be an OBS path in a KMS-encrypted bucket.
name	Yes	String	Name of a data processing task.
template	Yes	TemplateParam object	Data processing template, such as the algorithm ID and parameters.
version_id	No	String	Dataset version ID.
work_path	No	WorkPath object	Work directory of a data processing task. A work directory cannot be an OBS path in a KMS-encrypted bucket.
workspace_id	No	String	Workspace ID. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.

Table 16-467 ProcessorDataSource

Parameter	Mandatory	Type	Description
name	No	String	Dataset name.
source	No	String	Data source path. Options: <ul style="list-style-type: none"> • If type is set to OBS, source is an OBS path. • If type is set to TASK, source is a task ID. • If type is set to DATASET, source is a dataset ID. • If type is set to CUSTOM and the API is called by resource tenants, set source to the project_id of the actual user. Otherwise, this field is left blank.

Parameter	Mandatory	Type	Description
type	No	String	Data source type. Options: <ul style="list-style-type: none"> • OBS: Data obtained from OBS • TASK: Data processing task • DATASET: Dataset • CUSTOM: Data called by resource tenants
version_id	No	String	Version of a dataset.
version_name	No	String	Dataset version name.

Table 16-468 TemplateParam

Parameter	Mandatory	Type	Description
id	No	String	Task type, which is the ID of a data processing template. Options: <ul style="list-style-type: none"> • sys_data_analyse: feature analysis • sys_data_cleaning: data cleansing • sys_data_augmentation: data augmentation • sys_data_validation: data validation • sys_data_selection: data filtering
name	No	String	Template name.
operator_params	No	Array of OperatorParam objects	Operator parameter list.

Table 16-469 OperatorParam

Parameter	Mandatory	Type	Description
advanced_params_switch	No	Boolean	Advanced parameter switch.
id	No	String	ID of an operator.
name	No	String	Name of an operator.

Parameter	Mandatory	Type	Description
params	No	Object	Operator parameter. The parameter type is map<string,object>. Currently, object only supports the types of Boolean, Integer, Long, String, List and Map<String,String>. For two special scenarios of object detection and image classification in a data preprocessing task, the value of task_type is object_detection or image_classification .

Table 16-470 WorkPath

Parameter	Mandatory	Type	Description
name	No	String	Dataset name.
output_path	No	String	Output path, for example, / datasets/demo.
path	No	String	Working path. Options: <ul style="list-style-type: none"> • If type is set to OBS, source is an OBS path. • If type is set to DATASET, source is a dataset ID.
type	No	String	Type of a working path. Options: <ul style="list-style-type: none"> • OBS: OBS path • DATASET: dataset
version_id	No	String	Version of a dataset.
version_name	No	String	Name of a dataset version. The value can contain 0 to 32 characters. Only digits, letters, underscores (_), and hyphens (-) are allowed.

Response Parameters

Status code: 200

Table 16-471 Response body parameters

Parameter	Type	Description
task_id	String	ID of a data processing task.

Example Requests

- The following is an example of how to create a feature analysis task. The task type has been set to **sys_data_analyse**.

```
{
  "name": "V001",
  "description": "",
  "data_source": {
    "type": "DATASET",
    "source": "X6c3N3eztX7cr3Arvqu"
  },
  "template": {
    "id": "sys_data_analyse",
    "operator_params": [ {
      "id": "sys_data_analyse",
      "params": {
        "op_list": [ ]
      }
    }
  ]
},
  "version_id": "J4Eh2FDEWH1qnDID3hQ"
}
```

- The following is an example of how to create a data processing (data validation) task. The task type has been set to **sys_data_validation**.

```
{
  "name": "PRE-e77c",
  "inputs": [ {
    "type": "DATASET",
    "source": "PYc9H2HGv5BJNwBGXyK",
    "version_id": "yoJ5ssClpNIOrsjjFDa"
  } ],
  "work_path": {
    "type": "DATASET",
    "path": "PYc9H2HGv5BJNwBGXyK",
    "version_name": "V0010"
  },
  "description": "",
  "create_version": true,
  "template": {
    "id": "sys_data_validation",
    "operator_params": [ {
      "name": "MetaValidation",
      "advanced_params_switch": false,
      "params": {
        "task_type": "image_classification",
        "dataset_type": "manifest",
        "source_service": "select",
        "filter_func": "data_validation_select",
        "image_max_width": "1920",
        "image_max_height": "1920",
        "total_status": "[0,1,2]"
      }
    }
  ]
},
  "workspace_id": "0"
}
```

- The following is an example of how to create a data processing (data cleansing) task. The task type has been set to **sys_data_cleaning**.

```
{
  "name": "PRE-330f",
  "inputs": [ {
    "type": "DATASET",
    "source": "gfgHHSokody6AJigS5A",
    "version_id": "54IXbeJhfttGpL46lbv"
  } ],
  "work_path": {
    "type": "DATASET",
    "path": "gfgHHSokody6AJigS5A",
    "version_name": "V004"
  },
  "description": "",
  "create_version": true,
  "template": {
    "id": "sys_data_cleaning",
    "operator_params": [ {
      "name": "PCC",
      "advanced_params_switch": false,
      "params": {
        "task_type": "image_classification",
        "dataset_type": "manifest",
        "source_service": "select",
        "filter_func": "data_cleaning_select",
        "prototype_sample_path": "obs://test-obs/classify/data/animals/",
        "criticism_sample_path": "",
        "n_clusters": "auto",
        "similarity_threshold": "0.9",
        "embedding_distance": "0.2",
        "checkpoint_path": "/home/work/user-job-dir/test-lxm/resnet_v1_50",
        "total_status": "[0,2]",
        "do_validation": "True"
      }
    }
  ]
},
  "workspace_id": "0"
}
```

- The following is an example of how to create a data processing (data filtering) task. The task type has been set to **sys_data_selection**.

```
{
  "name": "PRE-aae5",
  "inputs": [ {
    "type": "DATASET",
    "source": "gLNSdlQ1iAAmPgl0Won",
    "version_id": "WAVPSYpKE3FggbgRxiK"
  } ],
  "work_path": {
    "type": "DATASET",
    "path": "gLNSdlQ1iAAmPgl0Won",
    "version_name": "V003"
  },
  "description": "",
  "create_version": true,
  "template": {
    "id": "sys_data_selection",
    "operator_params": [ {
      "name": "SimDeduplication",
      "advanced_params_switch": false,
      "params": {
        "task_type": "image_classification",
        "dataset_type": "manifest",
        "source_service": "select",
        "filter_func": "data_deduplication_select",
        "similarity_threshold": "0.9",
        "total_status": "[0,2]",
      }
    }
  ]
}
```

```

    "do_validation" : "True"
  }
}
},
"workspace_id" : "0"
}

```

- The following is an example of how to create a data processing (data augmentation) task. The task type has been set to **sys_data_augmentation**.

```

{
  "name" : "PRE-637c",
  "inputs" : [ {
    "type" : "DATASET",
    "source" : "XGrRZuCV1qmMxnsmd5u",
    "version_id" : "kjPDTOSi6BQqhtXZlFv"
  } ],
  "work_path" : {
    "type" : "DATASET",
    "path" : "XGrRZuCV1qmMxnsmd5u",
    "version_name" : "V002"
  },
  "description" : "",
  "create_version" : true,
  "template" : {
    "id" : "sys_data_augmentation",
    "operator_params" : [ {
      "name" : "AddNoise",
      "advanced_params_switch" : false,
      "params" : {
        "task_type" : "image_classification",
        "dataset_type" : "manifest",
        "AddNoise" : "1",
        "noise_type" : "Gauss",
        "loc" : "0",
        "scale" : "1",
        "lam" : "2",
        "p" : "0.01",
        "total_status" : "[3]",
        "filter_func" : "data_augmentation",
        "do_validation" : "True"
      }
    }
  ]
},
"workspace_id" : "0"
}

```

Example Responses

Status code: 200

OK

```

{
  "task_id" : "SNEJua7qdZZN8GvkEr"
}

```

Status Codes

Status Code	Description
200	OK
401	Unauthorized

Status Code	Description
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.70 Querying Details About a Processing Task

Function

This API is used to obtain details about processing tasks, including feature analysis tasks and data processing tasks. You can specify the **task_id** parameter to obtain the details about a specific task.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

GET /v2/{project_id}/processor-tasks/{task_id}

Table 16-472 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
task_id	Yes	String	ID of a data processing task.

Request Parameters

None

Response Parameters

Status code: 200

Table 16-473 Response body parameters

Parameter	Type	Description
create_time	Long	Time when a data processing task is created.
data_source	ProcessorDataSource object	Input of a data processing task. Either this parameter or inputs is delivered.
description	String	Description of a data processing task.
duration_seconds	Integer	Running time of data processing, in seconds.
error_msg	String	Error message. This field is displayed when the value of status is 3 .
inputs	Array of ProcessorDataSource objects	Input channel list of a data processing task. Either this parameter or data_source is delivered.
is_current	Boolean	Whether the current task is the latest of the same type of this version.
name	String	Name of a data processing task.
result	Object	Output result of a data processing task. This field is displayed when status is set to 2 and is valid for a feature analysis task.
status	Integer	Status of a data processing task. Options: <ul style="list-style-type: none"> ● 0: initialized ● 1: running ● 2: completed ● 3: failed ● 4: stopped
task_id	String	ID of a data processing task.
template	TemplateParam object	Data processing template, such as the algorithm ID and parameters.
version_count	Integer	Version number of a data processing task.
version_id	String	Dataset version ID corresponding to a data processing task.
version_name	String	Dataset version name corresponding to a data processing task.
work_path	WorkPath object	Working directory of a data processing task.

Parameter	Type	Description
workspace_id	String	Workspace ID of a data processing task. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.

Table 16-474 ProcessorDataSource

Parameter	Type	Description
name	String	Dataset name.
source	String	Data source path. Options: <ul style="list-style-type: none"> • If type is set to OBS, source is an OBS path. • If type is set to TASK, source is a task ID. • If type is set to DATASET, source is a dataset ID. • If type is set to CUSTOM and the API is called by resource tenants, set source to the project_id of the actual user. Otherwise, this field is left blank.
type	String	Data source type. Options: <ul style="list-style-type: none"> • OBS: Data obtained from OBS • TASK: Data processing task • DATASET: Dataset • CUSTOM: Data called by resource tenants
version_id	String	Version of a dataset.
version_name	String	Dataset version name.

Table 16-475 TemplateParam

Parameter	Type	Description
id	String	Task type, which is the ID of a data processing template. Options: <ul style="list-style-type: none"> • sys_data_analyse: feature analysis • sys_data_cleaning: data cleansing • sys_data_augmentation: data augmentation • sys_data_validation: data validation • sys_data_selection: data filtering
name	String	Template name.

Parameter	Type	Description
operator_params	Array of OperatorParam objects	Operator parameter list.

Table 16-476 OperatorParam

Parameter	Type	Description
advanced_params_switch	Boolean	Advanced parameter switch.
id	String	ID of an operator.
name	String	Name of an operator.
params	Object	Operator parameter. The parameter type is map<string,object>. Currently, object only supports the types of Boolean, Integer, Long, String, List and Map<String,String>. For two special scenarios of object detection and image classification in a data preprocessing task, the value of task_type is object_detection or image_classification .

Table 16-477 WorkPath

Parameter	Type	Description
name	String	Dataset name.
output_path	String	Output path, for example, /datasets/demo.
path	String	Working path. Options: <ul style="list-style-type: none"> • If type is set to OBS, source is an OBS path. • If type is set to DATASET, source is a dataset ID.
type	String	Type of a working path. Options: <ul style="list-style-type: none"> • OBS: OBS path • DATASET: dataset
version_id	String	Version of a dataset.
version_name	String	Name of a dataset version. The value can contain 0 to 32 characters. Only digits, letters, underscores (_), and hyphens (-) are allowed.

Example Requests

Querying Details About a Data Processing Task

```
GET https://{endpoint}/v2/{project_id}/processor-tasks/{task_id}
```

Example Responses

Status code: 200

OK

```
{
  "task_id": "AcYfsdfhGyrWL5TtahH",
  "name": "V002",
  "data_source": {
    "type": "DATASET",
    "source": "X6c3N3eztX7cr3Arvqu"
  },
  "inputs": [ {
    "type": "DATASET",
    "source": "X6c3N3eztX7cr3Arvqu"
  } ],
  "template": {
    "id": "sys_data_analyse",
    "name": "data analyse template name",
    "operator_params": [ {
      "id": "sys_data_analyse",
      "params": {
        "op_list": [ ],
        "task_type": "image_classification",
        "manifest_path": "s3://lch-test-obs/classify/output/dataset-3026-X6c3N3eztX7cr3Arvqu/annotation/V002/V002.manifest",
        "file_path": "s3://lch-test-obs/classify/output/dataset-3026-X6c3N3eztX7cr3Arvqu/annotation/evaluation/V002",
        "is_normed": false
      }
    } ]
  },
  "status": 2,
  "duration_seconds": 22,
  "create_time": 1606373999627,
  "result": "xxx",
  "version_id": "XwTuRqI9En7xuZskW70",
  "is_current": true
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.71 Updating a Processing Task

Function

This API is used to update a processing task, including feature analysis tasks and data processing tasks. Only the description of tasks can be updated. You can specify the **task_id** parameter to update a specific task.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

PUT /v2/{project_id}/processor-tasks/{task_id}

Table 16-478 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
task_id	Yes	String	ID of a data processing task.

Request Parameters

Table 16-479 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	Description of a data processing task. The description contains 0 to 256 characters and does not support the following special characters: ^!<>=&""

Response Parameters

None

Example Requests

Updating a Data Processing Task

```
{  
  "description" : "test"  
}
```

Example Responses

Status code: 200

OK

```
{}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See [Error Codes](#).

16.1.72 Deleting a Processing Task

Function

This API is used to delete a processing task, including feature analysis tasks and data processing tasks. A specific task can be deleted by specifying the **task_id** parameter.

Debugging

You can debug this API through automatic authentication in [API Explorer](#) or use the SDK sample code generated by API Explorer.

URI

```
DELETE /v2/{project_id}/processor-tasks/{task_id}
```

Table 16-480 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
task_id	Yes	String	ID of a data processing task.

Request Parameters

None

Response Parameters

None

Example Requests

Deleting a Data Processing Task

```
DELETE https://{endpoint}/v2/{project_id}/processor-tasks/{task_id}
```

Example Responses

Status code: 200

OK

```
{}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden

Error Codes

See [Error Codes](#).

16.2 DevEnviron (Old Version)

16.2.1 Creating a Development Environment Instance

Function

This API is used to create a development environment instance for code development.

Calling this API is an asynchronous operation. The job status can be obtained by calling the API described in [Obtaining Details About a Development Environment Instance](#).

URI

POST /v1/{project_id}/demanager/instances

[Table 16-481](#) describes the required parameters.

Table 16-481 Parameters

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

Request Body

[Table 16-482](#) describes the request parameters.

Table 16-482 Parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Instance name, which contains a maximum of 64 characters. The value can contain letters, digits, hyphens (-), and underscores (_).
profile_id	Yes	String	Configuration ID. Options: <ul style="list-style-type: none"> Ascend-Power-Engine 1.0(python3) Multi-Engine 1.0 (python2)-cpu Multi-Engine 1.0 (python2)-gpu Multi-Engine 1.0 (python3)-cpu Multi-Engine 1.0 (python3)-gpu Multi-Engine 2.0 (python3)

Parameter	Mandatory	Type	Description
description	No	String	Instance description. The value contains a maximum of 512 characters and cannot contain the following special characters: &<>"/. By default, this parameter is left blank.
flavor	Yes	String	Instance flavor. The actual flavors depend on the region. To use other flavors, submit a service ticket to change the flavors.
spec	Yes	Object	Instance definition. Only Notebook is supported. For example, see Table 16-483 .
workspace	No	Object	Workspace. The default workspace ID is 0 . For details, see Table 16-487 .
pool	No	Object	Resource pool. For details, see Table 16-488 .
ai_project	No	Object	AI project. For details, see Table 16-490 .

Table 16-483 notebook parameters

Parameter	Mandatory	Type	Description
storage	Yes	Object	Storage path. For details, see Table 16-484 .
extend_storage	No	Array<Storage>	Extended storage list. For details, see Table 16-484 . Extended storage supports only obsfs and is available only for certain dedicated resource pools.
auto_stop	No	Object	Auto stop parameter. For details, see Table 16-486 .
annotations	No	Map<String,String>	Label information, which can be extended. By default, this parameter is left blank.

Table 16-484 storage parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Storage type. Only obs , obsfs , and evs are supported. Additionally, obsfs can only be used in certain dedicated resource pools. To mount an OBS parallel file system, submit a service ticket.
location	No	Object	Storage location. If type is set to obs , this parameter is mandatory. See Table 16-485 . By default, this parameter is left blank.

Table 16-485 location parameters

Parameter	Mandatory	Type	Description
path	No	String	Storage path <ul style="list-style-type: none"> If type is set to obs, this parameter is mandatory. The value must be a valid OBS bucket path and end with a slash (/). The value must be a specific directory in an OBS bucket rather than the root directory of an OBS bucket. If type is set to obsfs, the parameter value must be a valid bucket name of the OBS parallel file system. (CCE does not support subdirectory mounting.) If type is set to evs, this parameter does not need to be set.
volume_size	No	Integer	EVS disk size. The minimum size is 5 GB and the maximum size is 4,096 GB. The default value is 5 GB. If type is set to obs , this parameter does not need to be set.

Parameter	Mandatory	Type	Description
mount_path	No	String	<p>Mount path in a notebook instance. This parameter is valid only when type is set to obsfs.</p> <p>The default value is /home/ma-user/work.</p> <p>If you want to mount the file system to a specified path, set the value to the subdirectory of /home/ma-user/work. Otherwise, the mounting may fail or read/write exceptions may occur due to permission issues.</p>
access_modes	No	String	<p>Access permission for the mounted file or folder. The permission can be read/write or read-only. This parameter is valid only when type is set to obsfs.</p> <p>Options:</p> <ul style="list-style-type: none"> • ReadOnlyMany: read-only mode • ReadWriteMany: read/write mode (default value)

Table 16-486 auto_stop parameters

Parameter	Mandatory	Type	Description
enable	No	Boolean	<p>Whether to enable the auto stop function. The value true indicates that the function is enabled and the instance will automatically stop when the running duration is reached. The value false indicates that the function is disabled. The default value is false.</p>
duration	No	Integer	<p>Running duration, in seconds. The value ranges from 3,600 to 86,400. After this parameter is set, it is valid for each startup. This parameter is mandatory when enable is set to true.</p>
prompt	No	Boolean	<p>Whether to display a prompt again. This parameter is provided for the console to determine whether to display a prompt again. The default value is true.</p>

Table 16-487 workspace parameters

Parameter	Mandatory	Type	Description
id	No	String	Workspace ID. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.

Table 16-488 poolSpec parameters

Parameter	Mandatory	Type	Description
id	Yes	String	Resource pool ID.
type	No	String	Resource pool type.
name	No	String	Resource pool name.
owner	No	Object	Owner of the resource pool. For details, see Table 16-489 .

Table 16-489 userSpec parameters

Parameter	Mandatory	Type	Description
project_id	No	String	ID of the project to which the resource belongs.

Table 16-490 AIProject parameters

Parameter	Mandatory	Type	Description
id	No	String	AI project ID. This parameter is reserved.

Response Body

[Table 16-491](#) describes the response parameters.

Table 16-491 Parameters

Parameter	Type	Description
id	String	Instance ID
name	String	Instance name

Parameter	Type	Description
description	String	Instance description
status	String	Instance status
creation_timestamp	String	Time when an instance is created
latest_update_timestamp	String	Time when an instance is modified
profile	Object	Configuration information. For details, see Table 16-492 .
flavor	String	Instance flavor
flavor_details	Object	For details about the flavor, see Table 16-496 .
pool	Object	For details about the dedicated resource pool, see Table 16-497 .
spec	Object	Instance definition For details about parameters of a notebook instance, see Table 16-499 .
workspace	Object	Workspace. For details, see Table 16-504 .
ai_project	Object	AI project. For details, see Table 16-505 .
error_code	String	Error code. For details, see Error Codes .
queuing_info	Object	Queuing information. For details, see Table 16-506 .
user	Object	User information. For details, see Table 16-507 .
repository	Object	Git repository information. For details, see Table 16-508 . This parameter cannot be used. It is automatically returned when the API is called.

Table 16-492 profile parameters

Parameter	Type	Description
id	String	Configuration ID
name	String	Configuration name
description	String	Configuration description
de_type	String	Development environment type. Only Notebook is supported.

Parameter	Type	Description
flavor_type	String	Hardware, which can be CPU , GPU , or Ascend .
provision	Object	Deployment information. For details, see Table 16-493 .
labels	Map<String,String>	Label

Table 16-493 provision parameters

Parameter	Type	Description
type	String	Deployment type. Only Docker is supported.
spec	Object	Deployment details. For details, see Table 16-494 .

Table 16-494 spec parameters

Parameter	Type	Description
engine	String	Deployment engine. Only CCE is supported.
params	Object	Deployment parameters. Only Docker is supported. For details, see Table 16-495 .

Table 16-495 Docker deployment parameters

Parameter	Type	Description
namespace	String	SWR organization name, which is globally unique
image_name	String	Image name
image_tag	String	Image tag
annotations	Map<String,String>	Label information, which can be extended. By default, this parameter is left blank.

Table 16-496 flavor_details parameters

Parameter	Type	Description
name	String	Flavor name
status	String	Flavor sales status. Options: <ul style="list-style-type: none"> • onSale • soldOut
queuing_num	Integer	This parameter is mandatory when promo_type is set to Free and status is set to soldOut .
queue_left_time	Integer	Left queuing time, in seconds This parameter is mandatory when promo_type is set to Free and status is set to soldOut .
storage_list	Array<Storage type>	Supported storage type. Options: <ul style="list-style-type: none"> • obs • evs • efs
is_permitted	Boolean	Whether the current user has the permission to use this flavor
type	String	Flavor type. Options: <ul style="list-style-type: none"> • GPU • CPU • ASCEND
params	Dict	Parameters that describing flavor
promo_type	String	Promotion type. Options: <ul style="list-style-type: none"> • Free • NoDiscount
instance_num	Integer	Number of instances of this flavor the current created
duration	Integer	Auto stop time after startup, in seconds
store_time	Integer	Maximum retention period of an inactive instance of this flavor in the database, in hours The default value is -1 , indicating that the instance can be permanently saved.
billing_flavor	String	Billing specifications. If this field is left blank, the specifications name is used for billing.

Parameter	Type	Description
billing_params	Integer	Billing ratio This parameter is mandatory when billing_flavor is specified.

Table 16-497 pool parameters

Parameter	Type	Description
id	String	ID of a resource pool
name	String	Name of a resource pool
type	String	Type of a resource pool. USER_DEFINED indicates a dedicated resource pool.
owner	Object	This parameter is mandatory when type is set to USER_DEFINED . For details, see Table 16-498 .

Table 16-498 owner parameters

Parameter	Type	Description
project_id	String	Project ID

Table 16-499 notebook parameters

Parameter	Type	Description
log_path	String	Path for storing custom image logs
custom_script_path	String	Path for storing custom initialization scripts used when a notebook instance is started
extend_storage	Array<Storage>	Extended storage list. For details, see Table 16-500 . Extended storage supports only obsfs and is available only for certain dedicated resource pools.
storage	Object	Storage path. For details, see Table 16-500 .
credential	Object	AK and SK for accessing OBS. For details, see Table 16-510 .

Parameter	Type	Description
repository	Object	Git repository information. For details, see Table 16-508 . This parameter cannot be used. It is automatically returned when the API is called.
resource_reserved_time stamp	Integer	Time when the resource is reserved
auto_stop	Object	Auto stop parameter. For details, see Table 16-503 .
failed_reasons	Object	Cause for a creation or startup failure. For details, see Table 16-502 .
annotations	Map<String,String >	Annotations The generated URL cannot be directly accessed.
extend_params	Map<String,String >	Extended parameter

Table 16-500 storage parameters

Parameter	Type	Description
type	String	Storage type. Only obs , obsfs , and evs are supported. Additionally, obsfs can only be used in certain dedicated resource pools. To mount an OBS parallel file system, submit a service ticket.
location	Object	Storage location. If type is set to obs , this parameter is mandatory. See Table 16-501 . By default, this parameter is left blank.

Table 16-501 location parameters

Parameter	Type	Description
path	String	Storage path <ul style="list-style-type: none"> If type is set to obs, this parameter is mandatory. The value must be a valid OBS bucket path and end with a slash (/). The value must be a specific directory in an OBS bucket rather than the root directory of an OBS bucket. If type is set to obsfs, the parameter value must be a valid bucket name of the OBS parallel file system. (CCE does not support subdirectory mounting.) If type is set to evs, this parameter does not need to be set.
volume_size	Integer	EVS disk size. The minimum size is 5 GB and the maximum size is 4,096 GB. The default value is 5 GB. If type is set to obs , this parameter does not need to be set.
mount_path	String	Mount path in a notebook instance. This parameter is valid only when type is set to obsfs . The default value is /home/ma-user/work . If you want to mount the file system to a specified path, set the value to the subdirectory of /home/ma-user/work . Otherwise, the mounting may fail or read/write exceptions may occur due to permission issues.
access_modes	String	Access permission for the mounted file or folder. The permission can be read/write or read-only. This parameter is valid only when type is set to obsfs . Options: <ul style="list-style-type: none"> ReadOnlyMany: read-only mode ReadWriteMany: read/write mode (default value)

Table 16-502 failed_reasons parameters

Parameter	Type	Description
code	String	Error code.
message	String	Error message
detail	Map<String,String >	Error details

Table 16-503 auto_stop parameters

Parameter	Type	Description
enable	Boolean	Whether to enable the auto stop function
duration	Integer	Running duration, in seconds
prompt	Boolean	Whether to display a prompt again. This parameter is provided for the console to use.
stop_timestamp	Integer	Time when the instance stops. The value is a 13-digit timestamp.
remain_time	Integer	Remaining time before actual stop, in seconds

Table 16-504 workspace parameters

Parameter	Type	Description
id	String	Workspace ID

Table 16-505 AIProject parameters

Parameter	Type	Description
id	String	AI project ID

Table 16-506 queuing_info parameters

Parameter	Type	Description
id	String	Instance ID
name	String	Instance name
de_type	String	Development environment type. By default, all types are returned. Only Notebook is supported.

Parameter	Type	Description
flavor	String	Instance flavor. By default, all types are returned. Options: <ul style="list-style-type: none"> modelarts.vm.cpu.free modelarts.vm.gpu.free
flavor_details	Object	Flavor details, which display the flavor information and whether the flavor is sold out For details, see Table 16-496 .
status	String	Instance status. By default, all statuses are returned, including: <ul style="list-style-type: none"> CREATE_QUEUING START_QUEUING
begin_timestamp	Integer	Time when an instance starts queuing. The value is a 13-digit timestamp.
remain_time	Integer	Left queuing time, in seconds
end_timestamp	Integer	Time when an instance completes queuing. The value is a 13-digit timestamp.
rank	Integer	Ranking of an instance in a queue

Table 16-507 user parameters

Parameter	Type	Description
id	String	User ID
name	String	Username

Table 16-508 repository parameters

Parameter	Type	Description
id	String	Repository ID
branch	String	Repository branch
user_name	String	Repository username
user_email	String	Repository user mailbox
type	String	Repository type. The options are CodeClub and GitHub .
connection_info	Object	Repository link information. For details, see Table 16-509 .

Table 16-509 connection_info parameters

Parameter	Type	Description
protocol	String	Repository link protocol. The options are ssh and https .
url	String	Repository link address
credential	Object	Certificate information. For details, see Table 16-510 .

Table 16-510 credential parameters

Parameter	Type	Description
ssh_private_key	String	SSH private certificate
access_token	String	OAuth token of GitHub

Sample Request

The following shows how to create the **notebook-instance** instance with ID **Python3-gpu**.

- Sample request

```
{
  "name": "notebook-instance",
  "description": "",
  "profile_id": "Multi-Engine 1.0 (python3)-gpu",
  "flavor": "modelarts.bm.gpu.v100NV32",
  "spec": {
    "storage": {
      "location": {
        "volume_size": 5
      },
      "type": "evs"
    },
    "auto_stop": {
      "enable": true,
      "duration": 3600
    }
  },
  "workspace": {
    "id": "0"
  }
}
```

Sample Response

- Successful response

```
{
  "ai_project": {
    "id": "default-ai-project"
  },
  "creation_timestamp": "1594887749962",
  "description": "",
  "flavor": "modelarts.bm.gpu.v100NV32",
  "flavor_details": {
```

```

"name": "modelarts.bm.gpu.v100NV32",
"params": {
  "CPU": 8,
  "GPU": 1,
  "gpu_type": "v100NV32",
  "memory": "64GiB"
},
"status": "onSale",
"type": "GPU"
},
"id": "DE-7d558ef8-c73d-11ea-964c-0255ac100033",
"latest_update_timestamp": "1594887749962",
"name": "notebook-c6fd",
"profile": {
  "de_type": "Notebook",
  "description": "multi engine, gpu, python 3.6 for notebook",
  "flavor_type": "GPU",
  "id": "Multi-Engine 1.0 (python3)-gpu",
  "name": "Multi-Engine 1.0 (python3)-gpu",
  "provision": {
    "spec": {
      "engine": "CCE",
      "params": {
        "image_name": "mul-kernel-gpu-cuda-cp36",
        "image_tag": "2.0.5-B003",
        "namespace": "atelier"
      }
    }
  },
  "type": "Docker"
}
},
"spec": {
  "annotations": {
    "target_domain": "https://modelarts-notebook-2.xxxx.com",
    "url": ""
  },
  "auto_stop": {
    "duration": 3600,
    "enable": true,
    "prompt": true
  },
  "storage": {
    "location": {
      "path": "/home/ma-user/work",
      "volume_size": 5
    },
    "type": "evs"
  }
},
"status": "CREATING",
"user": {
  "id": "15dda26361214ca2a5953917d2f48ffb",
  "name": "ops_dev_env"
},
"workspace": {
  "id": "0"
}
}

```

- Failed response

```

{
  "error_message": "The param path needs to end with /.",
  "error_code": "ModelArts.6318"
}

```

Status Code

For details about the status code, see [Status Code](#).

16.2.2 Obtaining Development Environment Instances

Function

This API is used to obtain the development environment instances that meet the search criteria.

URI

GET /v1/{project_id}/demanager/instances?
de_type={de_type}&provision_type={provision_type}&status={status}&sortby={sort
by}&order={order}&offset={offset}&limit={limit}

[Table 16-511](#) describes the required parameters.

Table 16-511 Parameters

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

Table 16-512 query parameters

Parameter	Mandatory	Type	Description
de_type	Yes	String	Development environment type. Only Notebook is supported. The first letter must be capitalized.
provision_type	No	String	Deployment type. Only Docker is supported.

Parameter	Mandatory	Type	Description
status	No	String	Instance status. By default, all statuses are returned. Options: <ul style="list-style-type: none"> ● CREATE_QUEUING: The instance is queuing for creating free resources. ● CREATING: The instance is being created. ● CREATE_FAILED: The instance fails to be created. ● START_QUEUING: The instance is queuing for starting free resources. ● READY_TO_START: The free resources are waiting to be started. ● STARTING: The instance is being started. ● RESTARTING: The instance is being restarted. ● START_FAILED: The instance fails to be started. ● RUNNING: The instance is running. ● STOPPING: The instance is being stopped. ● STOPPED: The instance has been stopped. ● UNAVAILABLE: The instance is unavailable. ● DELETED: The instance has been deleted. ● RESIZING: The instance specifications are being changed. ● RESIZE_FAILED: The instance specifications fail to be changed.
sortby	No	String	Classification standard. The value can be name or creation_timestamp . The default value is name .
order	No	String	Sorting mode. The value can be asc or desc . The default value is asc .
offset	No	Integer	Start index. The default value is 0 .
limit	No	Integer	Number of returned result records. The value range is (0, ∞). The default value is 0 , which indicates that all results are returned.
workspace_id	No	String	Workspace ID. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.

Parameter	Mandatory	Type	Description
show_self	No	String	Only the user is displayed. The default value is true .
ai_project	No	String	AI project ID
pool_id	No	String	ID of a dedicated resource pool. This parameter can be used to obtain all instances in a dedicated resource pool.

Request Body

None

Response Body

[Table 16-513](#) describes the response parameters.

Table 16-513 Parameters

Parameter	Type	Description
total_count	Integer	Total number of development environments.
instances	Array	Configuration list. For details, see Table 16-514 .

Table 16-514 instances parameters

Parameter	Type	Description
id	String	Instance ID
name	String	Instance name
description	String	Instance description
status	String	Instance status
creation_timestamp	String	Time when an instance is created
profile	Object	Configuration information. For details, see Table 16-515 .
flavor	String	Instance flavor
spec	Object	Instance definition. For details about parameters of a notebook instance, see Table 16-523 .
workspace	Object	Workspace. For details, see Table 16-528 .

Parameter	Type	Description
latest_update_timestamp	String	Time when an instance is modified
flavor_details	Object	Flavor details. For details, see Table 16-519 .
pool	Object	Dedicated resource pool. For details, see Table 16-520 .
ai_project	Object	AI project. For details, see Table 16-521 .
error_code	String	Error code. For details, see Error Codes .
queuing_info	Object	Queuing information. For details, see Table 16-529 .
user	Object	User information. For details, see Table 16-530 .
repository	Object	Git repository information. For details, see Table 16-531 . This parameter cannot be used. It is automatically returned when the API is called.

Table 16-515 profile parameters

Parameter	Type	Description
id	String	Configuration ID
name	String	Configuration name
description	String	Configuration description
de_type	String	Development environment type. Only Notebook is supported.
provision	Object	Deployment information. For details, see Table 16-516 .
labels	Map<String,String>	Label information, which can be extended
flavor_type	String	Hardware, which can be CPU , GPU , or Ascend .

Table 16-516 provision parameters

Parameter	Type	Description
type	String	Deployment type. Only Docker is supported.
spec	Object	Deployment details. For details, see Table 16-517 .
annotations	Map<String,String>	Label information, which can be extended. By default, this parameter is left blank.

Table 16-517 spec parameters

Parameter	Type	Description
engine	String	Deployment engine. Only CCE is supported.
params	Object	Deployment parameters. Only Docker is supported. For details, see Table 16-518 .

Table 16-518 Docker deployment parameters

Parameter	Type	Description
namespace	String	SWR organization name, which is globally unique
image_name	String	Image name
image_tag	String	Image tag
annotations	Map<String,String>	Label information, which can be extended. By default, this parameter is left blank.

Table 16-519 flavor_details parameters

Parameter	Type	Description
name	String	Flavor name
status	String	Flavor sales status. Options: <ul style="list-style-type: none"> • onSale • soldOut
queuing_num	Integer	This parameter is mandatory when promo_type is set to Free and status is set to soldOut .

Parameter	Type	Description
queue_left_time	Integer	Left queuing time, in seconds This parameter is mandatory when promo_type is set to Free and status is set to soldOut .
storage_list	Array<Storage type>	Supported storage type. The options are obs , evs , and efs .
is_permitted	Boolean	Whether the current user has the permission to use this flavor
type	String	Flavor type. Options: <ul style="list-style-type: none"> • GPU • CPU • ASCEND
params	Dict	Parameters that describing flavor
promo_type	String	Promotion type. Options: <ul style="list-style-type: none"> • Free • NoDiscount
instance_num	Integer	Number of instances of this flavor the current created
duration	Integer	Auto stop time after startup, in seconds
store_time	Integer	Maximum retention period of an inactive instance of this flavor in the database, in hours The default value is -1 , indicating that the instance can be permanently saved.
billing_flavor	String	Billing specifications. If this field is left blank, the specifications name is used for billing.
billing_params	Integer	Billing ratio This parameter is mandatory when billing_flavor is specified.

Table 16-520 pool parameters

Parameter	Type	Description
id	String	ID of a resource pool
name	String	Name of a resource pool
type	String	Type of a resource pool. USER_DEFINED indicates a dedicated resource pool.
owner	Object	This parameter is mandatory when type is set to USER_DEFINED . For details, see Table 16-522 .

Table 16-521 AIProject parameters

Parameter	Type	Description
id	String	AI project ID

Table 16-522 owner parameters

Parameter	Type	Description
project_id	String	Project ID

Table 16-523 notebook parameters

Parameter	Type	Description
extend_storage	Array<Storage>	Extended storage list. For details, see Table 16-524 . Extended storage supports only obsfs and is available only for certain dedicated resource pools.
storage	Object	Storage path. For details, see Table 16-524 .
auto_stop	Object	Auto stop parameter. For details, see Table 16-527 .
annotations	Map<String,String>	Annotations The generated URL cannot be directly accessed.
failed_reasons	Object	Cause for a creation or startup failure. See Table 16-526 .
extend_params	Map<String,String>	Extended parameter

Table 16-524 storage parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Storage type. Only obs , obsfs , and evs are supported. Additionally, obsfs can only be used in certain dedicated resource pools. To mount an OBS parallel file system, submit a service ticket.
location	No	Object	Storage location. If type is set to obs , this parameter is mandatory. See Table 16-525 . By default, this parameter is left blank.

Table 16-525 location parameters

Parameter	Mandatory	Type	Description
path	No	String	Storage path. <ul style="list-style-type: none"> If type is set to obs, this parameter is mandatory. The value must be a valid OBS bucket path and end with a slash (/). The value must be a specific directory in an OBS bucket rather than the root directory of an OBS bucket. If type is set to obsfs, the parameter value must be a valid bucket name of the OBS parallel file system. (CCE does not support subdirectory mounting.) If type is set to evs, this parameter does not need to be set.
volume_size	No	Integer	EVS disk size. The minimum size is 5 GB and the maximum size is 4,096 GB. The default value is 5 GB. If type is set to obs , this parameter does not need to be set.
mount_path	No	String	Mount path in a notebook instance. This parameter is valid only when type is set to obsfs . The default value is /home/ma-user/work . To mount the file system to a specified path, set the value to the subdirectory of /home/ma-user/work . Otherwise, the mounting may fail or read/write exceptions may occur due to permission issues.
access_modes	No	String	Access permission for the mounted file or folder. The permission can be read/write or read-only. This parameter is valid only when type is set to obsfs . Options: <ul style="list-style-type: none"> ReadOnlyMany: read-only mode ReadWriteMany: read/write mode (default value)

Table 16-526 failed_reasons parameters

Parameter	Type	Description
code	String	Error code
message	String	Error message

Parameter	Type	Description
detail	Map<String,String>	Error details

Table 16-527 auto_stop parameters

Parameter	Type	Description
enable	Boolean	Whether to enable the auto stop function
duration	Integer	Running duration, in seconds
prompt	Boolean	Whether to display a prompt again. This parameter is provided for the console to use.
stop_time_stamp	Integer	Time when the instance stops. The value is a 13-digit timestamp.
remain_time	Integer	Remaining time before actual stop, in seconds

Table 16-528 workspace parameters

Parameter	Type	Description
id	String	Workspace ID

Table 16-529 queuing_info parameters

Parameter	Type	Description
id	String	Instance ID
name	String	Instance name
de_type	String	Development environment type. By default, all types are returned. Only Notebook is supported.
flavor	String	Instance flavor. By default, all types are returned. Options: <ul style="list-style-type: none"> modelarts.vm.cpu.free modelarts.vm.gpu.free

Parameter	Type	Description
flavor_details	Object	Flavor details, which display the flavor information and whether the flavor is sold out For details, see Table 16-519 .
status	String	Instance status. By default, all statuses are returned, including: <ul style="list-style-type: none"> • CREATE_QUEUING • START_QUEUING
begin_timestamp	Integer	Time when an instance starts queuing. The value is a 13-digit timestamp.
remain_time	Integer	Left queuing time, in seconds
end_timestamp	Integer	Time when an instance completes queuing. The value is a 13-digit timestamp.
rank	Integer	Ranking of an instance in a queue

Table 16-530 user parameters

Parameter	Type	Description
id	String	User ID
name	String	Username

Table 16-531 repository parameters

Parameter	Type	Description
id	String	Repository ID
branch	String	Repository branch
user_name	String	Repository username
user_email	String	Repository user mailbox
type	String	Repository type. The options are CodeClub and GitHub .
connection_info	Object	Repository link information. For details, see Table 16-532 .

Table 16-532 connection_info parameters

Parameter	Type	Description
protocol	String	Repository link protocol. The options are ssh and https .
url	String	Repository link address
credential	Object	Certificate information. For details, see Table 16-533 .

Table 16-533 credential parameters

Parameter	Type	Description
ssh_private_key	String	SSH private certificate
access_token	String	OAuth token of GitHub

Sample Request

The following shows how to obtain the list of Notebook development environments.

```
GET https://endpoint/v1/{project_id}/demanager/instances?de_type=Notebook
```

Sample Response

- Successful response

```
{
  "instances": [
    {
      "ai_project": {
        "id": "default-ai-project"
      },
      "creation_timestamp": "1594887749962",
      "description": "",
      "flavor": "modelarts.bm.gpu.v100NV32",
      "flavor_details": {
        "name": "modelarts.bm.gpu.v100NV32",
        "params": {
          "CPU": 8,
          "GPU": 1,
          "gpu_type": "v100NV32",
          "memory": "64GiB"
        }
      },
      "status": "onSale",
      "type": "GPU"
    },
    {
      "id": "DE-7d558ef8-c73d-11ea-964c-0255ac100033",
      "latest_update_timestamp": "1594887749962",
      "name": "notebook-c6fd",
      "profile": {
        "de_type": "Notebook",
        "description": "multi engine, gpu, python 3.6 for notebook",
        "flavor_type": "GPU",
        "id": "Multi-Engine 1.0 (python3)-gpu",
        "name": "Multi-Engine 1.0 (python3)-gpu",
        "provision": {
```

```

        "annotations": {
          "category": "Multi-Engine 1.0 (python3)",
          "type": "system"
        },
        "spec": {
          "engine": "CCE",
          "params": {
            "annotations": null,
            "image_name": "mul-kernel-gpu-cuda-cp36",
            "image_tag": "2.0.5-B003",
            "namespace": "atelier"
          }
        },
        "type": "Docker"
      }
    },
    "spec": {
      "annotations": {
        "target_domain": "https://modelarts-notebook-2.xxxxxx.com",
        "url": "https://modelarts-lvs-common-lb.xxxxxx.com:32000/modelarts/hubv100/notebook/user/DE-7d558ef8-c73d-11ea-964c-0255ac100033"
      },
      "auto_stop": {
        "duration": 3600,
        "enable": true,
        "prompt": true,
        "remain_time": 3450,
        "stop_timestamp": 1594891408723
      },
      "extend_params": null,
      "failed_reasons": null,
      "extend_storage": null,
      "storage": {
        "location": {
          "path": "/home/ma-user/work",
          "volume_size": 5
        },
        "type": "evs"
      }
    },
    "status": "RUNNING",
    "user": {
      "id": "15dda26361214ca2a5953917d2f48ffb",
      "name": "ops_dev_env"
    },
    "workspace": {
      "id": "0"
    }
  },
  {
    "ai_project": {
      "id": "default-ai-project"
    },
    "creation_timestamp": "1594883877728",
    "description": "",
    "flavor": "modelarts.vm.cpu.2u",
    "flavor_details": {
      "name": "modelarts.vm.cpu.2u",
      "params": {
        "CPU": 2,
        "GPU": 0,
        "memory": "8GiB"
      },
      "status": "onSale",
      "type": "CPU"
    },
    "id": "DE-7936a360-c734-11ea-a72b-0255ac100033",
    "latest_update_timestamp": "1594883877728",
    "name": "notebook-b1b8",

```

```
"profile": {
  "de_type": "Notebook",
  "description": "multi engine, cpu, python 3.6 for notebook",
  "flavor_type": "CPU",
  "id": "Multi-Engine 1.0 (python3)-cpu",
  "name": "Multi-Engine 1.0 (python3)-cpu",
  "provision": {
    "annotations": {
      "category": "Multi-Engine 1.0 (Python3, Recommended)",
      "type": "system"
    },
    "spec": {
      "engine": "CCE",
      "params": {
        "annotations": null,
        "image_name": "mul-kernel-cpu-cp36",
        "image_tag": "2.0.5-B003",
        "namespace": "atelier"
      }
    }
  },
  "type": "Docker"
},
"spec": {
  "annotations": {
    "target_domain": "https://modelarts-notebook.xxxxxx.com",
    "url": ""
  },
  "auto_stop": {
    "duration": 3600,
    "enable": true,
    "prompt": true
  },
  "extend_params": null,
  "failed_reasons": null,
  "storage": {
    "location": {
      "path": "/home/ma-user/work",
      "volume_size": 5
    },
    "type": "evs"
  }
},
"status": "STOPPED",
"user": {
  "id": "15dda26361214ca2a5953917d2f48ffb",
  "name": "ops_dev_env"
},
"workspace": {
  "id": "0"
}
}],
"total_count": 2
}
```

Status Code

For details about the status code, see [Status Code](#).

16.2.3 Obtaining Details About a Development Environment Instance

Function

This API is used to obtain details about a development environment instance.

URI

GET /v1/{project_id}/demanager/instances/{instance_id}

[Table 16-534](#) describes the required parameters.

Table 16-534 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
instance_id	Yes	String	Instance ID

Request Body

None

Response Body

[Table 16-535](#) describes the response parameters.

Table 16-535 Parameters

Parameter	Type	Description
id	String	Instance ID
name	String	Instance name
description	String	Instance description
status	String	Instance status
creation_timestamp	String	Time when an instance is created
profile	Object	Configuration information. For details, see Table 16-536 .
flavor	String	Instance flavor
spec	Object	Instance specifications of the notebook type. For details, see Table 16-544 .
workspace	Object	Workspace. For details, see Table 16-549 .
latest_update_timestamp	String	Time when an instance is modified
flavor_details	Object	Flavor details. See Table 16-540 .

Parameter	Type	Description
pool	Object	Dedicated resource pool. See Table 16-541 .
ai_project	Object	AI project. For details, see Table 16-542 .
error_code	String	Error code. For details, see Error Codes .
queuing_info	Object	Queuing information. For details, see Table 16-550 .
user	Object	User information. For details, see Table 16-551 .
repository	Object	Git repository information. For details, see Table 16-552 . This parameter cannot be used. It is automatically returned when the API is called.

Table 16-536 profile parameters

Parameter	Type	Description
id	String	Configuration ID
name	String	Configuration name
description	String	Configuration description
de_type	String	Development environment type. Only Notebook is supported.
provision	Object	Deployment information. For details, see Table 16-537 .
labels	Map<String,String>	Label information
flavor_type	String	Hardware, which can be CPU , Ascend , or GPU

Table 16-537 provision parameters

Parameter	Type	Description
type	String	Deployment type. Only Docker is supported.

Parameter	Type	Description
spec	Object	Deployment details. For details, see Table 16-538 .

Table 16-538 spec parameters

Parameter	Type	Description
engine	String	Deployment engine. Only CCE is supported.
params	Object	Deployment parameters. Only Docker is supported. For details, see Table 16-539 .

Table 16-539 Docker deployment parameters

Parameter	Type	Description
namespace	String	SWR organization name, which is globally unique
image_name	String	Image name
image_tag	String	Image tag
annotations	Map<String, String>	Label information, which can be extended. By default, this parameter is left blank.

Table 16-540 flavor_details parameters

Parameter	Type	Description
name	String	Flavor name
status	String	Flavor sales status. Options: <ul style="list-style-type: none"> • onSale • soldOut
queuing_num	Integer	Mandatory when promo_type is set to Free and status is set to soldOut
queue_left_time	Integer	Remaining time for being queued, in seconds Mandatory when promo_type is set to Free and status is set to soldOut

Parameter	Type	Description
storage_list	Array<storageType >	Supported storage types, which default to all
is_permitted	Boolean	Whether the current user has the permission to use this flavor
type	String	Flavor type. Options: <ul style="list-style-type: none"> • GPU • CPU • ASCEND
params	Dict	Parameters that describe flavors
promo_type	String	Promotion type. Options: <ul style="list-style-type: none"> • Free • NoDiscount
instance_num	Integer	Number of instances of this flavor created by the current user
duration	Integer	Auto stop time after startup, in seconds
store_time	Integer	Maximum retention period of an inactive instance of this flavor in the database, in hours The default value is -1, indicating that the instance can be permanently saved.
billing_flavor	String	Billing specifications. If this field is left blank, the specification name is used for billing.
billing_params	Integer	Billing ratio. This parameter is mandatory if billing_flavor is specified.

Table 16-541 pool parameters

Parameter	Type	Description
id	String	ID of a resource pool
name	String	Name of a resource pool
type	String	Type of a resource pool. USER_DEFINED indicates a dedicated resource pool.
owner	Object	This parameter is mandatory when type is set to USER_DEFINED . For details, see Table 16-543 .

Table 16-542 AIProject parameters

Parameter	Type	Description
id	String	AI project ID

Table 16-543 owner parameters

Parameter	Type	Description
project_id	String	Project ID

Table 16-544 notebook parameters

Parameter	Type	Description
log_path	String	Path for storing custom image logs
custom_script_path	String	Path for storing custom initialization scripts used when a notebook instance is started
extend_storage	Array<Storage>	Extended storage list. For details, see Table 16-484 . Extended storage supports only obsfs and is available only for certain dedicated resource pools.
storage	Object	Storage path. For details, see Table 16-484 .
credential	Object	AK and SK for accessing OBS. For details, see Table 16-510 .
repository	Object	Git repository information. For details, see Table 16-508 . This parameter cannot be used. It is automatically returned when the API is called.
resource_reserved_time_stamp	Integer	Time when the resource is reserved
auto_stop	Object	Auto stop parameter. For details, see Table 16-503 .
failed_reasons	Object	Cause for a creation or startup failure. For details, see Table 16-502 .

Parameter	Type	Description
annotations	Map<String,String >	Annotations The generated URL cannot be directly accessed.
extend_params	Map<String,String >	Extended parameters

Table 16-545 storage parameters

Parameter	Type	Description
type	String	Storage type Only obs , obsfs , and evs are supported. Additionally, obsfs can only be used in certain dedicated resource pools. To mount an OBS parallel file system, submit a service ticket.
location	Object	Storage location. If type is set to obs , this parameter is mandatory. See Table 16-485 . By default, this parameter is left blank.

Table 16-546 location parameters

Parameter	Type	Description
path	String	Storage path <ul style="list-style-type: none"> If type is set to obs, this parameter is mandatory. The value must be a valid OBS bucket path and end with a slash (/). The value must be a specific directory in an OBS bucket rather than the root directory of an OBS bucket. If type is set to obsfs, the parameter value must be a valid bucket name of the OBS parallel file system. (CCE does not support subdirectory mounting.) If type is set to evs, this parameter does not need to be set.
volume_size	Integer	EVS disk size. The minimum size is 5 GB and the maximum size is 4096 GB. The default value is 5 GB. If type is set to obs , this parameter does not need to be set.

Parameter	Type	Description
mount_path	String	Mount path in a notebook instance. This parameter is valid only when type is set to obsfs . The default value is /home/ma-user/work . To mount the file system to a specified path, set the value to the subdirectory of /home/ma-user/work . Otherwise, the mounting may fail or read/write exceptions may occur due to permission issues.
access_modes	String	Access permission for the mounted file or folder. The permission can be read/write or read-only. This parameter is valid only when type is set to obsfs . Options: <ul style="list-style-type: none"> • ReadOnlyMany: read-only mode • ReadWriteMany: read/write mode (default value)

Table 16-547 auto_stop parameters

Parameter	Type	Description
enable	Boolean	Whether to enable the auto stop function
duration	Integer	Running duration, in seconds
prompt	Boolean	Whether to display a prompt again. This parameter is provided for the console to use.
stop_timestamp	Integer	Time when the instance stops. The value is a 13-digit timestamp.
remain_time	Integer	Remaining time before actual stop, in seconds

Table 16-548 failed_reasons parameters

Parameter	Type	Description
code	String	Error code
message	String	Error message
detail	Map<String,String >	Error details

Table 16-549 workspace parameters

Parameter	Type	Description
id	String	Workspace ID. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.

Table 16-550 queuing_info parameters

Parameter	Type	Description
id	String	Instance ID
name	String	Instance name
de_type	String	Development environment type. By default, all types are returned. Only Notebook is supported.
flavor	String	Instance flavor. By default, all types are returned. Options: <ul style="list-style-type: none"> modelarts.vm.cpu.free modelarts.vm.gpu.free
flavor_details	Object	Flavor details, which display the flavor information and whether the flavor is sold out. For details, see Table 16-496 .
status	String	Instance status. By default, all statuses are returned. Options: <ul style="list-style-type: none"> CREATE_QUEUING START_QUEUING
begin_timestamp	Integer	Time when an instance starts queuing, which is a 13-digit timestamp
remain_time	Integer	Remaining time for being queued, in seconds
end_timestamp	Integer	Time when an instance completes queuing, which is a 13-digit timestamp
rank	Integer	Ranking of an instance in a queue

Table 16-551 user parameters

Parameter	Type	Description
id	String	User ID

Parameter	Type	Description
name	String	Username

Table 16-552 repository parameters

Parameter	Type	Description
id	String	Repository ID
branch	String	Repository branch
user_name	String	Repository username
user_email	String	Repository user mailbox
type	String	Repository type, which can be CodeClub or GitHub
connection_info	Object	Repository connection. For details, see Table 16-509 .

Table 16-553 connection_info parameters

Parameter	Type	Description
protocol	String	Repository link protocol, which can be ssh or https
url	String	Repository link address
credential	Object	Certificate information. For details, see Table 16-510 .

Table 16-554 credential parameters

Parameter	Type	Description
ssh_private_key	String	SSH private certificate
access_token	String	OAuth token of GitHub

Sample Request

The following shows how to obtain the details about instance **6fa459ea-ee8a-3ca4-894e-db77e160355e**.

```
GET https://endpoint/v1/{project_id}/demanager/instances/6fa459ea-ee8a-3ca4-894e-db77e160355e
```

Sample Response

- Successful response

```
{
  "ai_project": {
    "id": "default-ai-project"
  },
  "creation_timestamp": "1594887749962",
  "description": "",
  "flavor": "modelarts.bm.gpu.v100NV32",
  "flavor_details": {
    "name": "modelarts.bm.gpu.v100NV32",
    "params": {
      "CPU": 8,
      "GPU": 1,
      "gpu_type": "v100NV32",
      "memory": "64GiB"
    },
    "status": "onSale",
    "type": "GPU"
  },
  "id": "DE-7d558ef8-c73d-11ea-964c-0255ac100033",
  "latest_update_timestamp": "1594888070775",
  "name": "notebook-c6fd",
  "profile": {
    "de_type": "Notebook",
    "description": "multi engine, gpu, python 3.6 for notebook",
    "flavor_type": "GPU",
    "id": "Multi-Engine 1.0 (python3)-gpu",
    "name": "Multi-Engine 1.0 (python3)-gpu",
    "provision": {
      "spec": {
        "engine": "CCE",
        "params": {
          "annotations": null,
          "image_name": "mul-kernel-gpu-cuda-cp36",
          "image_tag": "2.0.5-B003",
          "namespace": "atelier"
        }
      }
    },
    "type": "Docker"
  },
  "spec": {
    "annotations": {
      "target_domain": "https://modelarts-notebook-2.xxxxx.com",
      "url": "https://modelarts-lvs-common-lb.xxxxx.com:32000/modelarts/hubv100/notebook/user/DE-7d558ef8-c73d-11ea-964c-0255ac100033"
    },
    "auto_stop": {
      "duration": 3600,
      "enable": true,
      "prompt": true,
      "remain_time": 3336,
      "stop_timestamp": 1594891408723
    },
    "extend_params": null,
    "failed_reasons": null,
    "repository": null,
    "extend_storage": null,
    "storage": {
      "location": {
        "path": "/home/ma-user/work",
        "volume_size": 5
      },
      "type": "evs"
    }
  },
  "status": "RUNNING",
}
```

```

"user": {
  "id": "15dda26361214ca2a5953917d2f48ffb",
  "name": "ops_dev_env"
},
"workspace": {
  "id": "0"
}
}

```

- Failed response

```

{
  "error_message": "The instance does not exist.",
  "error_code": "ModelArts.6309"
}

```

Status Code

For details about the status code, see [Status Code](#).

16.2.4 Modifying the Description of a Development Environment Instance

Function

This API is used to modify the description of a development environment instance or information about the auto stop function.

URI

PUT /v1/{project_id}/demanager/instances/{instance_id}

[Table 16-555](#) describes the required parameters.

Table 16-555 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
instance_id	Yes	String	Instance ID

Request Body

[Table 16-556](#) describes the request parameters.

Table 16-556 Parameters

Parameter	Mandatory	Type	Description
description	No	String	Configuration description. The value contains a maximum of 512 characters and cannot contain the following special characters: &<>'"/.
spec	No	Object	Instance definition. For details, see Table 16-557 .

Table 16-557 spec parameters

Parameter	Mandatory	Type	Description
auto_stop	No	Object	Auto stop parameter. For details, see Table 16-558 .

Table 16-558 auto_stop parameters

Parameter	Mandatory	Type	Description
enable	No	Boolean	Whether to enable the auto stop function. The value true indicates that the function is enabled and the instance will automatically stop when the running duration is reached. The value false indicates that the function is disabled. The default value is false .
duration	No	Integer	Running duration, in seconds. The value ranges from 3,600 to 86,400. After this parameter is set, it is valid for each startup. This parameter is mandatory when enable is set to true . If the current instance status is Running , the modifications of this parameter take effect only after the next startup.
prompt	No	Boolean	Whether to display a prompt again. This parameter is provided for the console to determine whether to display a prompt again. The default value is true .

Response Body

[Table 16-559](#) describes the response parameters.

Table 16-559 Response parameters

Parameter	Type	Description
id	String	Instance ID
name	String	Instance name
description	String	Instance description
status	String	Instance status
creation_timestamp	String	Time when an instance is created
latest_update_timestamp	String	Time when an instance is modified
profile	Object	Configurations. For details, see Table 16-492 .
flavor	String	Instance flavor
flavor_details	Object	Flavor details. For details, see Table 16-496 .
pool	Object	Dedicated resource pool. For details, see Table 16-497 .
spec	Object	Instance specifications. For details about notebook, see Table 16-494 .
workspace	Object	Workspace. For details, see Table 16-487 .
ai_project	Object	AI project. For details, see Table 16-566 .
error_code	String	Error code. For details, see Error Codes .
queuing_info	Object	Queuing information. For details, see Table 16-506 .
user	Object	User information. For details, see Table 16-507 .
repository	Object	Git repository. For details, see Table 16-508 . This parameter cannot be used. It is automatically returned when the API is called.

Table 16-560 profile parameters

Parameter	Type	Description
id	String	Configuration ID
name	String	Configuration name
description	String	Configuration description
de_type	String	Development environment type. Only Notebook is supported.
provision	Object	Deployment information. For details, see Table 16-537 .
labels	Map<String,String>	Labels
flavor_type	String	Hardware, which can be CPU , Ascend, or GPU

Table 16-561 provision parameters

Parameter	Type	Description
type	String	Deployment type. Only Docker is supported.
spec	Object	Deployment details. For details, see Table 16-562 .

Table 16-562 spec parameters

Parameter	Type	Description
engine	String	Deployment engine. Only CCE is supported.
params	Object	Deployment parameters. Only Docker is supported. For details, see Table 16-563 .

Table 16-563 Docker deployment parameters

Parameter	Type	Description
namespace	String	SWR organization name, which is globally unique
image_name	String	Image name

Parameter	Type	Description
image_tag	String	Image tag
annotations	Map<String,String>	Label information, which can be extended. By default, this parameter is left blank.

Table 16-564 flavor_details parameters

Parameter	Type	Description
name	String	Flavor name
status	String	Flavor sales status. Options: <ul style="list-style-type: none"> • onSale • soldOut
queuing_num	Integer	Mandatory when promo_type is set to Free and status is set to soldOut
queue_left_time	Integer	Remaining time for being queued, in seconds Mandatory when promo_type is set to Free and status is set to soldOut
storage_list	Array<storageType >	Supported storage types, which default to all <ul style="list-style-type: none"> • obs • evs • efs
is_permitted	Boolean	Whether the current user has the permission to use this flavor
type	String	Flavor type. Options: <ul style="list-style-type: none"> • GPU • CPU • ASCEND
params	Dict	Parameters that describe flavors
promo_type	String	Promotion type. Options: <ul style="list-style-type: none"> • Free • NoDiscount
instance_num	Integer	Number of instances of this flavor created by the current user
duration	Integer	Auto stop time after startup, in seconds

Parameter	Type	Description
store_time	Integer	Maximum retention period of an inactive instance of this flavor in the database, in hours The default value is -1 , indicating that the instance can be permanently saved.
billing_flavor	String	Billing specifications. If this field is left blank, the specification name is used for billing.
billing_params	Integer	Billing ratio. This parameter is mandatory if billing_flavor is specified.

Table 16-565 pool parameters

Parameter	Type	Description
id	String	ID of a resource pool
name	String	Name of a resource pool
type	String	Type of a resource pool. USER_DEFINED indicates a dedicated resource pool.
owner	Object	This parameter is mandatory when type is set to USER_DEFINED . For details, see Table 16-567 .

Table 16-566 AIProject parameters

Parameter	Type	Description
id	String	AI project ID.

Table 16-567 owner parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID

Table 16-568 notebook parameters

Parameter	Type	Description
log_path	String	Path for storing custom image logs
custom_script_path	String	Path for storing custom initialization scripts used when a notebook instance is started
extend_storage	Array<Storage>	Extended storage list. For details, see Table 16-484 . Extended storage supports only obsfs and is available only for certain dedicated resource pools.
storage	Object	Storage path. For details, see Table 16-484 .
credential	Object	AK and SK for accessing OBS. For details, see Table 16-510 .
repository	Object	Git repository information. For details, see Table 16-508 . This parameter cannot be used. It is automatically returned when the API is called.
resource_reserved_time_stamp	Integer	Time when the resource is reserved
auto_stop	Object	Auto stop parameter. For details, see Table 16-486 .
failed_reasons	Object	Cause for a creation or startup failure. For details, see Table 16-502 .
annotations	Map<String,String>	Annotations The generated URL cannot be directly accessed.
extend_params	Map<String,String>	Extended parameters

Table 16-569 storage parameters

Parameter	Type	Description
type	String	Storage type. Only obs , obsfs , and evs are supported. Additionally, obsfs can only be used in certain dedicated resource pools. To mount an OBS parallel file system, submit a service ticket.
location	Object	Storage location. If type is set to obs , this parameter is mandatory. See Table 16-570 . By default, this parameter is left blank.

Table 16-570 location parameters

Parameter	Mandatory	Type	Description
path	No	String	Storage path <ul style="list-style-type: none"> If type is set to obs, this parameter is mandatory. The value must be a valid OBS bucket path and end with a slash (/). The value must be a specific directory in an OBS bucket rather than the root directory of an OBS bucket. If type is set to obsfs, the parameter value must be a valid bucket name of the OBS parallel file system. (CCE does not support subdirectory mounting.) If type is set to evs, this parameter does not need to be set.
volume_size	No	Integer	EVS disk size. The minimum size is 5 GB and the maximum size is 4096 GB. The default value is 5 GB. If type is set to obs , this parameter does not need to be set.

Parameter	Mandatory	Type	Description
mount_path	No	String	Mount path in a notebook instance. This parameter is valid only when type is set to obsfs . The default value is /home/ma-user/work . To mount the file system to a specified path, set the value to the subdirectory of /home/ma-user/work . Otherwise, the mounting may fail or read/write exceptions may occur due to permission issues.
access_modes	No	String	Access permission for the mounted file or folder. The permission can be read/write or read-only. This parameter is valid only when type is set to obsfs . Options: <ul style="list-style-type: none"> • ReadOnlyMany: read-only mode • ReadWriteMany: read/write mode (default value)

Table 16-571 auto_stop parameters

Parameter	Type	Description
enable	Boolean	Whether to enable the auto stop function
duration	Integer	Running duration, in seconds
prompt	Boolean	Whether to display a prompt again. This parameter is provided for the console to use.
stop_timestamp	Integer	Time when the instance stops. The value is a 13-digit timestamp.
remain_time	Integer	Remaining time before actual stop, in seconds

Table 16-572 failed_reasons parameters

Parameter	Type	Description
code	String	Error code

Parameter	Type	Description
message	String	Error message
detail	Map<String,String>	Error details

Table 16-573 workspace parameters

Parameter	Type	Description
id	String	Workspace ID. If no workspace is created, the default value is 0 . If a workspace is created and used, use the actual value.

Table 16-574 queuing_info parameters

Parameter	Type	Description
id	String	Instance ID
name	String	Instance name
de_type	String	Development environment type. By default, all types are returned. Only Notebook is supported.
flavor	String	Instance flavor. By default, all types are returned. Options: <ul style="list-style-type: none"> • modelarts.vm.cpu.free • modelarts.vm.gpu.free
flavor_details	Object	Flavor details, which display the flavor information and whether the flavor is sold out. For details, see Table 16-496 .
status	String	Instance status. By default, all statuses are returned. Options: <ul style="list-style-type: none"> • CREATE_QUEUING • START_QUEUING
begin_timestamp	Integer	Time when an instance starts queuing, which is a 13-digit timestamp
remain_time	Integer	Remaining time for being queued, in seconds
end_timestamp	Integer	Time when an instance completes queuing, which is a 13-digit timestamp

Parameter	Type	Description
rank	Integer	Ranking of an instance in a queue

Table 16-575 user parameters

Parameter	Type	Description
id	String	User ID
name	String	Username

Table 16-576 repository parameters

Parameter	Type	Description
id	String	Repository ID
branch	String	Repository branch
user_name	String	Repository username
user_email	String	Repository user mailbox
type	String	Repository type, which can be CodeClub or GitHub
connection_info	Object	Repository connection. For details, see Table 16-509 .

Table 16-577 connection_info parameters

Parameter	Type	Description
protocol	String	Repository link protocol, which can be ssh or https
url	String	Repository link address
credential	Object	Certificate information. For details, see Table 16-510 .

Table 16-578 credential parameters

Parameter	Type	Description
ssh_private_key	String	SSH private certificate
access_token	String	OAuth token of GitHub

Sample Request

The following shows how to modify the details about instance **6fa459ea-ee8a-3ca4-894e-db77e160355e**.

```
{
  "description": "machine learning python2.7 notebook"
}
```

Sample Response

- Successful response

```
{
  "ai_project": {
    "id": "default-ai-project"
  },
  "creation_timestamp": "1594887749962",
  "description": "update notebook",
  "flavor": "modelarts.bm.gpu.v100NV32",
  "flavor_details": {
    "name": "modelarts.bm.gpu.v100NV32",
    "params": {
      "CPU": 8,
      "GPU": 1,
      "gpu_type": "v100NV32",
      "memory": "64GiB"
    }
  },
  "status": "onSale",
  "type": "GPU"
},
"id": "DE-7d558ef8-c73d-11ea-964c-0255ac100033",
"latest_update_timestamp": "1594888143062",
"name": "notebook-c6fd",
"profile": {
  "de_type": "Notebook",
  "description": "multi engine, gpu, python 3.6 for notebook",
  "flavor_type": "GPU",
  "id": "Python3-gpu",
  "name": "Python3",
  "provision": {
    "spec": {
      "engine": "CCE",
      "params": {
        "annotations": null,
        "image_name": "mul-kernel-gpu-cuda-cp36",
        "image_tag": "2.0.5-B003",
        "namespace": "atelier"
      }
    }
  }
},
"type": "Docker"
},
"status": "RUNNING",
"user": {
  "id": "15dda26361214ca2a5953917d2f48ffb",
  "name": "ops_dev_env"
},
"workspace": {
  "id": "0"
}
}
```

- Failed response

```
{
  "error_message": "The instance does not exist."
}
```

```

    "error_code": "ModelArts.6309"
  }

```

Status Code

For details about the status code, see [Status Code](#).

16.2.5 Deleting a Development Environment Instance

Function

This API is used to delete a development environment instance.

URI

DELETE /v1/{project_id}/demanager/instances/{instance_id}

[Table 16-579](#) describes the required parameters.

Table 16-579 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
instance_id	Yes	String	Instance ID

Request Body

None

Response Body

[Table 16-580](#) describes the response parameters.

Table 16-580 Parameter description

Parameter	Type	Description
instance_id	String	Instance ID

Sample Request

The following shows how to delete instance **6fa459ea-ee8a-3ca4-894e-db77e160355e**.

```
DELETE https://endpoint/v1/{project_id}/demanager/instances/6fa459ea-ee8a-3ca4-894e-db77e160355e
```

Sample Response

- Successful response

```
{
  "instance_id": "6fa459ea-ee8a-3ca4-894e-db77e160355e"
}
```
- Failed response

```
{
  "error_message": "The instance does not exist.",
  "error_code": "ModelArts.6309"
}
```

Status Code

For details about the status code, see [Status Code](#).

16.2.6 Managing a Development Environment Instance

Function

This API is used to start, restart, queue, cancel queuing of, or stop a notebook instance.

URI

POST /v1/{project_id}/demanager/instances/{instance_id}/action

[Table 16-581](#) describes the required parameters.

Table 16-581 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
instance_id	Yes	String	Instance ID

Request Body

[Table 16-582](#) describes the request parameters.

Table 16-582 Parameters

Parameter	Mandatory	Type	Description
action	Yes	String	Operation on a development environment instance. The options are as follows: <ul style="list-style-type: none"> • start • stop • restart • queue • dequeue queue and dequeue operations can be performed only on free resources.

Response Body

[Table 16-583](#) describes the response parameters.

Table 16-583 Parameters

Parameter	Type	Description
current_status	String	Current status of an instance
previous_state	String	Previous status of an instance

Sample Request

The following shows how to start instance **6fa459ea-ee8a-3ca4-894e-db77e160355e**.

```
{
  "action": "start"
}
```

Sample Response

- Successful response

```
{
  "current_status": "STARTING",
  "previous_state": "STOPPED"
}
```

- Failed response

```
{
  "error_message": "The instance does not exist.",
  "error_code": "ModelArts.6309"
}
```

Status Code

For details about the status code, see [Status Code](#).

16.3 Training Management (Old Version)

16.3.1 Training Jobs

16.3.1.1 Creating a Training Job

Function

This API is used to create a training job.

Calling this API is an asynchronous operation. The job status can be obtained by calling the APIs described in [Querying a Training Job List](#) and [Querying the Details About a Training Job Version](#).

URI

POST /v1/{project_id}/training-jobs

[Table 16-584](#) describes the required parameters.

Table 16-584 Parameters

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

Request Body

[Table 16-585](#) describes the request parameters.

Table 16-585 Parameters

Parameter	Mandatory	Type	Description
job_name	Yes	String	Training job name. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).
job_desc	No	String	Description of a training job. The value must contain 0 to 256 characters. By default, this parameter is left blank.

Parameter	Mandatory	Type	Description
config	Yes	Object	Parameters for creating a training job For details, see Table 16-586 .
workspace_id	No	String	Workspace where a job resides. Default value: 0

Table 16-586 config parameters

Parameter	Mandatory	Type	Description
worker_server_num	Yes	Integer	Number of workers in a training job. Obtain the maximum value from the max_num value returned by the API in Querying Job Resource Specifications .
app_url	Yes	String	Code directory of a training job, for example, /usr/app/ . This parameter must be used together with boot_file_url . After setting model_id , you do not need to set app_url or boot_file_url , and engine_id .
boot_file_url	Yes	String	Boot file of a training job, which needs to be stored in the code directory. Example value: /usr/app/boot.py This parameter must be used together with app_url . After setting model_id , you do not need to set app_url or boot_file_url , and engine_id .
parameter	No	Array<Object>	Running parameters of a training job. It is a collection of label-value pairs. Values can be customized. label is a parameter name and value is the parameter value. For details, see the sample request. This parameter is a container environment variable when a training job uses a custom image. For details, see Table 16-591 .
data_url	No	String	OBS URL of the dataset required by a training job. By default, this parameter is left blank. For example, /usr/data/ . This parameter cannot be used together with data_source or dataset_id and dataset_version_id . However, one of the parameters must exist.

Parameter	Mandatory	Type	Description
dataset_id	No	String	Dataset ID of a training job. This parameter must be used together with dataset_version_id , but cannot be used together with data_url or data_source .
dataset_version_id	No	String	Dataset version ID of a training job. This parameter must be used together with dataset_id , but cannot be used together with data_url or data_source .
data_source	No	Array<Object>	Dataset of a training job. This parameter cannot be used together with data_url or dataset_id and dataset_version_id . For details, see Table 16-587 .
spec_id	Yes	Long	ID of the resource specifications selected for a training job. Obtain the ID by calling the API described in Querying Job Resource Specifications . When creating a public pool job, ensure that spec_id is mandatory and cannot be used with pool_id .
pool_id	Yes	String	ID of a dedicated resource pool. To obtain the ID, do as follows: Log in to the ModelArts management console, choose Dedicated Resource Pools in the navigation pane on the left, and view the resource pool ID in the dedicated resource pool list. When creating a dedicated pool job, ensure that pool_id is mandatory and cannot be used with spec_id .
engine_id	Yes	Long	ID of the engine selected for a training job. The default value is 1 . After setting model_id , you do not need to set app_url or boot_file_url , and engine_id . Obtain the ID by calling the API described in Querying Job Engine Specifications .
model_id	Yes	Long	ID of the built-in model of a training job. Obtain model_id by calling the API described in Querying a Built-in Algorithm . After setting model_id , you do not need to set app_url or boot_file_url , and engine_id .
train_url	No	String	OBS URL of the output file of a training job. By default, this parameter is left blank. Example value: /usr/train/

Parameter	Mandatory	Type	Description
log_url	No	String	OBS URL of the logs of a training job. By default, this parameter is left blank. Example value: /usr/log/
user_image_url	No	String	SWR URL of a custom image used by a training job. Example value: 100.125.5.235:20202/jobmng/custom-cpu-base:1.0
user_command	No	String	Boot command used to start the container of a custom image of a training job. The format is bash /home/work/run_train.sh python /home/work/user-job-dir/app/train.py {python_file_parameter} .
create_version	No	Boolean	Whether a version is created when a training job is created <ul style="list-style-type: none"> true: Default value. A version is created when a training job is created. false: A version is not created when a training job is created.
volumes	No	JSON Array	Storage volume that can be used by a training job. For details, see Table 16-588 .

Table 16-587 data_source parameters

Parameter	Mandatory	Type	Description
dataset_id	No	String	Dataset ID of a training job. This parameter must be used together with dataset_version_id , but cannot be used together with data_url .
dataset_version	No	String	Dataset version ID of a training job. This parameter must be used together with dataset_id , but cannot be used together with data_url .
type	No	String	Dataset type. The value can be obs or dataset . obs and dataset cannot be used at the same time.

Parameter	Mandatory	Type	Description
data_url	No	String	OBS bucket path. This parameter cannot be used together with dataset_id or dataset_version .

Table 16-588 volumes parameters

Parameter	Mandatory	Type	Description
nfs	No	Object	Storage volume of the shared file system type. Only the training jobs running in a resource pool with the shared file system network connected support such storage volumes. For details, see Table 16-589 .
host_path	No	Object	Storage volume of the host file system type. Only training jobs running in a dedicated resource pool support such storage volumes. For details, see Table 16-590 .

Table 16-589 nfs parameters

Parameter	Mandatory	Type	Description
id	Yes	String	ID of an SFS Turbo file system
src_path	Yes	String	Address of an SFS Turbo file system
dest_path	Yes	String	Local path to a training job
read_only	No	Boolean	Whether dest_path is read-only. The default value is false . <ul style="list-style-type: none"> true: read-only permission false: read/write permission. This is the default value.

Table 16-590 host_path parameters

Parameter	Mandatory	Type	Description
src_path	Yes	String	Local path to a host

Parameter	Mandatory	Type	Description
dest_path	Yes	String	Local path to a training job
read_only	No	Boolean	Whether dest_path is read-only. The default value is false . <ul style="list-style-type: none"> • true: read-only permission • false: read/write permission. This is the default value.

Table 16-591 parameter parameters

Parameter	Mandatory	Type	Description
label	No	String	Parameter name
value	No	String	Parameter value

Response Body

[Table 16-592](#) describes the response parameters.

Table 16-592 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
job_id	Long	ID of a training job
job_name	String	Name of a training job
status	Int	Status of a training job. For details about the job statuses, see Job Statuses .
create_time	Long	Timestamp when a training job is created
version_id	Long	Version ID of a training job
resource_id	String	Charged resource ID of a training job

Parameter	Type	Description
version_name	String	Version name of a training job

Sample Request

- The following shows how to create training job **TestModelArtsJob** with **This is a ModelArts job** as its description.

```
POST https://endpoint/v1/{project_id}/training-jobs
{
  "job_name": "TestModelArtsJob",
  "job_desc": "This is a ModelArts job",
  "workspace_id": "af261af2218841ec960b01ab3cf1a5fa",
  "config": {
    "worker_server_num": 1,
    "app_url": "/usr/app/",
    "boot_file_url": "/usr/app/boot.py",
    "parameter": [
      {
        "label": "learning_rate",
        "value": "0.01"
      },
      {
        "label": "batch_size",
        "value": "32"
      }
    ]
  },
  "dataset_id": "38277e62-9e59-48f4-8d89-c8cf41622c24",
  "dataset_version_id": "2ff0d6ba-c480-45ae-be41-09a8369bfc90",
  "spec_id": 1,
  "engine_id": 1,
  "train_url": "/usr/train/",
  "log_url": "/usr/log/",
  "model_id": 1,
  "pool_id": "testpool"
}
```

- The following shows how to create training job **TestModelArtsJob2** using a custom image.

```
POST https://endpoint/v1/{project_id}/training-jobs
{
  "job_name": "TestModelArtsJob2",
  "job_desc": "This is a ModelArts job",
  "workspace_id": "af261af2218841ec960b01ab3cf1a5fa",
  "config": {
    "worker_server_num": 1,
    "data_url": "/usr/data/",
    "app_url": "/usr/app/",
    "boot_file_url": "/usr/app/boot.py",
    "parameter": [
      {
        "label": "CUSTOM_PARAM1",
        "value": "1"
      }
    ]
  },
  "spec_id": 1,
  "user_command": "bash -x /home/work/run_train.sh python /home/work/user-job-dir/app/mnist/mnist_softmax.py --data_url /home/work/user-job-dir/app/mnist_data",
  "user_image_url": "100.125.5.235:20202/jobmng/custom-cpu-base:1.0",
  "train_url": "/usr/train/",
  "log_url": "/usr/log/",
  "model_id": 1,
  "pool_id": "testpool",
}
```

```
    "engine_id": 1
  }
}
```

- The following shows how to create training job **TestModelArtsJob3** using disk storage.

```
POST https://endpoint/v1/{project_id}/training-jobs
{
  "job_name": "TestModelArtsJob3",
  "job_desc": "This is a ModelArts job",
  "workspace_id": "af261af2218841ec960b01ab3cf1a5fa",
  "config": {
    "worker_server_num": 1,
    "app_url": "/usr/app/",
    "boot_file_url": "/usr/app/boot.py",
    "parameter": [
      {
        "label": "learning_rate",
        "value": "0.01"
      },
      {
        "label": "batch_size",
        "value": "32"
      }
    ]
  },
  "dataset_id": "38277e62-9e59-48f4-8d89-c8cf41622c24",
  "dataset_version_id": "2ff0d6ba-c480-45ae-be41-09a8369bfc90",
  "spec_id": 1,
  "engine_id": 1,
  "train_url": "/usr/train/",
  "log_url": "/usr/log/",
  "model_id": 1,
  "pool_id": "testpool",
  "volumes": [
    {
      "nfs": {
        "id": "43b37236-9afa-4855-8174-32254b9562e7",
        "src_path": "192.168.8.150:/",
        "dest_path": "/home/work/nas",
        "read_only": false
      }
    },
    {
      "host_path": {
        "src_path": "/root/work",
        "dest_path": "/home/mind",
        "read_only": false
      }
    }
  ]
}
```

Sample Response

- Successful response

```
{
  "is_success": true,
  "job_id": "10",
  "job_name": "TestModelArtsJob",
  "status": "1",
  "create_time": "1524189990635",
  "version_id": "10",
  "version_name": "V0001",
  "resource_id": "jobafd08896"
}
```

- Failed response

```
{
  "is_success": false,
  "error_message": "Job name:TestModelArtsJob is existed",
  "error_code": "ModelArts.0103"
}
```

Status Code

For details about the status code, see [Status Code](#).

16.3.1.2 Querying a Training Job List

Function

This API is used to obtain the created training jobs that meet the search criteria.

URI

GET /v1/{project_id}/training-jobs

[Table 16-593](#) describes the required parameters.

Table 16-593 URI parameters

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

Table 16-594 Query parameters

Parameter	Mandatory	Type	Description
status	No	String	Job status. By default, all job statuses are returned. For example, to obtain failed jobs, set the value of status to 3 , 5 , 6 , or 13 . For details about the job statuses, see Job Statuses .
per_page	No	Integer	Number of jobs displayed on each page. The value range is [1, 1000]. Default value: 10
page	No	Integer	Index of the page to be queried. Default value: 1 The value range is [1, 65535].

Parameter	Mandatory	Type	Description
sortBy	No	String	Sorting mode of the query. The value can be job_name , job_desc , status , duration , version_count , or create_time . Default value: job_name
order	No	String	Sorting order. Options: <ul style="list-style-type: none"> • asc: ascending order. It is the default value. • desc: descending order
search_content	No	String	Search content, for example, a training job name. The value must contain 0 to 64 characters. By default, this parameter is left blank.
workspace_id	No	String	Workspace where a job resides. Default value: 0

Request Body

None

Response Body

[Table 16-595](#) describes the response parameters.

Table 16-595 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
job_total_count	Integer	Total number of created jobs
job_count_limit	Integer	Number of training jobs that can be created
jobs	jobs array	Attributes of a training job. For details, see Table 16-596 .

Parameter	Type	Description
quotas	Integer	Maximum number of training jobs

Table 16-596 jobs parameters

Parameter	Type	Description
job_id	Long	ID of a training job
job_name	String	Name of a training job
version_id	Long	Version ID of a training job
status	Int	Status of a training job. For details about the job statuses, see Job Statuses .
create_time	Long	Timestamp when a training job is created
duration	Long	Training job running duration, in milliseconds
job_desc	String	Description of a training job
version_count	Long	Number of versions of a training job

Sample Request

The following shows how to obtain training jobs in the **7** state and with name containing **job** on the first page. Each page displays 10 records sorted by **job_name** in ascending order.

```
GET https://endpoint/v1/{project_id}/training-jobs?
status=7&per_page=10&page=1&sortBy=job_name&order=asc&search_content=job
```

Sample Response

- Successful response

```
{
  "is_success": true,
  "quotas": 5,
  "job_total_count": 1,
  "job_count_limit": 3,
  "jobs": [
    {
      "job_id": 10,
      "job_name": "testModelArtsJob",
      "version_id": 10,
      "status": 10,
      "create_time": 1524189990635,
      "duration": 532003,
      "job_desc": "This is ModelArts job",
      "version_count": 5
    }
  ]
}
```


- Failed response

```
{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Status Code](#).

16.3.1.3 Querying the Details About a Training Job Version

Function

This API is used to obtain the details about a specified training job based on the job ID.

URI

GET /v1/{project_id}/training-jobs/{job_id}/versions/{version_id}

[Table 16-597](#) describes the required parameters.

Table 16-597 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
job_id	Yes	Long	ID of a training job
version_id	Yes	Long	Version ID of a training job

Request Body

None

Response Body

[Table 16-598](#) describes the response parameters.

Table 16-598 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
job_id	Long	ID of a training job

Parameter	Type	Description
job_name	String	Name of a training job
job_desc	String	Description of a training job
version_id	Long	Version ID of a training job
version_name	String	Version name of a training job
pre_version_id	Long	Name of the previous version of a training job
engine_type	Integer	Engine type of a training job. The mapping between engine_type and engine_name is as follows: <ul style="list-style-type: none"> • engine_type: 1, engine_name: TensorFlow • engine_type: 2, engine_name: MXNet • engine_type: 3, engine_name: Ray • engine_type: 4, engine_name: Caffe • engine_type: 5, engine_name: Spark_MLLib • engine_type: 9, engine_name: XGBoost-Sklearn • engine_type: 10, engine_name: PyTorch • engine_type: 12, engine_name: Horovod
engine_name	String	Name of the engine selected for a training job. Currently, the following engines are supported: <ul style="list-style-type: none"> • Ascend-Powered-Engine • Caffe • Horovod • MXNet • PyTorch • Ray • Spark_MLLib • TensorFlow • XGBoost-Sklearn • MindSpore-GPU
engine_id	Long	ID of the engine selected for a training job
engine_version	String	Version of the engine selected for a training job
status	Integer	Status of a training job. For details about the job statuses, see Job Statuses .
app_url	String	Code directory of a training job
boot_file_url	String	Boot file of a training job

Parameter	Type	Description
create_time	Long	Time when a training job is created
parameter	Array<Object>	Running parameters of a training job. This parameter is a container environment variable when a training job uses a custom image. For details, see Table 16-599 .
duration	Long	Training job running duration, in milliseconds
spec_id	Long	ID of the resource specifications selected for a training job
core	String	Number of cores of the resource specifications
cpu	String	CPU memory of the resource specifications
gpu_num	Integer	Number of GPUs of the resource specifications
gpu_type	String	GPU type of the resource specifications
worker_server_num	Integer	Number of workers in a training job
data_url	String	Dataset of a training job
train_url	String	OBS path of the training job output file
log_url	String	OBS URL of the logs of a training job. By default, this parameter is left blank. Example value: <code>/usr/train/</code>
dataset_version_id	String	Dataset version ID of a training job
dataset_id	String	Dataset ID of a training job
data_source	Array<Object>	Dataset of a training job. For details, see Table 16-600 .
model_id	Long	Model ID of a training job
model_metric_list	String	Model metrics of a training job. For details, see Table 16-601 .
system_metric_list	Object	System monitoring metrics of a training job. For details, see Table 16-602 .
user_image_url	String	SWR URL of a custom image used by a training job
user_command	String	Boot command used to start the container of a custom image of a training job
resource_id	String	Charged resource ID of a training job
dataset_name	String	Dataset of a training job

Parameter	Type	Description
spec_code	String	Resource specifications selected for a training job
start_time	Long	Training start time
volumes	Array<Object>	Storage volume that can be used by a training job. For details, see Table 16-607 .
dataset_version_name	String	Dataset of a training job
pool_name	String	Name of a resource pool
pool_id	String	ID of a resource pool
nas_mount_path	String	Local mount path of SFS Turbo (NAS). Example value: /home/work/nas
nas_share_addr	String	Shared path of SFS Turbo (NAS). Example value: 192.168.8.150:/
nas_type	String	Only NFS is supported. Example value: nfs

Table 16-599 parameter parameters

Parameter	Type	Description
label	String	Parameter name
value	String	Parameter value

Table 16-600 data_source parameters

Parameter	Type	Description
dataset_id	String	Dataset ID of a training job
dataset_version	String	Dataset version ID of a training job
type	String	Dataset type <ul style="list-style-type: none"> • obs: Data from OBS is used. • dataset: Data from a specified dataset is used.
data_url	String	OBS bucket path

Table 16-601 model_metric_list parameters

Parameter	Type	Description
metric	JSON Array	Validation metrics of a classification of a training job. For details, see Table 16-603 .
total_metric	JSON	Overall validation parameters of a training job. For details, see Table 16-605 .

Table 16-602 system_metric_list parameters

Parameter	Type	Description
cpuUsage	Array	CPU usage of a training job
memUsage	Array	Memory usage of a training job
gpuUtil	Array	GPU usage of a training job

Table 16-603 metric parameters

Parameter	Type	Description
metric_values	JSON	Validation metrics of a classification of a training job. For details, see Table 16-604 .
reserved_data	JSON	Reserved parameter
metric_metadata	JSON	Classification of a training job, including the classification ID and name

Table 16-604 metric_values parameters

Parameter	Type	Description
recall	Float	Recall of a classification of a training job
precision	Float	Precision of a classification of a training job
accuracy	Float	Accuracy of a classification of a training job

Table 16-605 total_metric parameters

Parameter	Type	Description
total_metric_meta	JSON	Reserved parameter

Parameter	Type	Description
total_reserved_data	JSON	Reserved parameter
total_metric_values	JSON	Overall validation metrics of a training job. For details, see Table 16-606 .

Table 16-606 total_metric_values parameters

Parameter	Type	Description
f1_score	Float	F1 score of a training job
recall	Float	Total recall of a training job
precision	Float	Total precision of a training job
accuracy	Float	Total accuracy of a training job

Table 16-607 volumes parameters

Parameter	Mandatory	Type	Description
nfs	No	Object	Storage volume of the shared file system type. Only the training jobs running in the resource pool with a shared file system network connected support such storage volumes. For details, see Table 16-589 .
host_path	No	Object	Storage volume of the host file system type. Only training jobs running in a dedicated resource pool support such storage volumes. For details, see Table 16-590 .

Table 16-608 nfs parameters

Parameter	Mandatory	Type	Description
id	Yes	String	ID of an SFS Turbo file system
src_path	Yes	String	Path to an SFS Turbo file system
dest_path	Yes	String	Local path to a training job

Parameter	Mandatory	Type	Description
read_only	No	Boolean	Whether dest_path is read-only. The default value is false . <ul style="list-style-type: none"> • true: read-only permission • false: read/write permission. This is the default value.

Table 16-609 host_path parameters

Parameter	Mandatory	Type	Description
src_path	Yes	String	Local path to a host
dest_path	Yes	String	Local path to a training job
read_only	No	Boolean	Whether dest_path is read-only. The default value is false . <ul style="list-style-type: none"> • true: read-only permission • false: read/write permission. This is the default value.

Sample Request

The following shows how to obtain the details about the job whose **job_id** is **10** and **version_id** is **10**.

```
GET https://endpoint/v1/{project_id}/training-jobs/10/versions/10
```

Sample Response

- Successful response

```
{
  "is_success": true,
  "job_id": 10,
  "job_name": "TestModelArtsJob",
  "job_desc": "TestModelArtsJob desc",
  "version_id": 10,
  "version_name": "jobVersion",
  "pre_version_id": 5,
  "engine_type": 1,
  "engine_name": "TensorFlow",
  "engine_id": 1,
  "engine_version": "TF-1.4.0-python2.7",
  "status": 10,
  "app_url": "/usr/app/",
  "boot_file_url": "/usr/app/boot.py",
  "create_time": 1524189990635,
  "parameter": [
    {
      "label": "learning_rate",
      "value": 0.01
    }
  ]
}
```

```

],
"duration": 532003,
"spec_id": 1,
"core": 2,
"cpu": 8,
"gpu_num": 2,
"gpu_type": "Pnt1",
"worker_server_num": 1,
"data_url": "/usr/data/",
"train_url": "/usr/train/",
"log_url": "/usr/log/",
"dataset_version_id": "2ff0d6ba-c480-45ae-be41-09a8369bfc90",
"dataset_id": "38277e62-9e59-48f4-8d89-c8cf41622c24",
"data_source": [
  {
    "type": "obs",
    "data_url": "/qianjiajun-test/minst/data/"
  }
],
"user_image_url": "100.125.5.235:20202/jobmng/custom-cpu-base:1.0",
"user_command": "bash -x /home/work/run_train.sh python /home/work/user-job-dir/app/mnist/
mnist_softmax.py --data_url /home/work/user-job-dir/app/mnist_data",
"model_id": 1,
"model_metric_list": "{\"metric\":{\"metric_values\":{\"recall\":0.005833,\"precision
\":0.000178,\"accuracy\":0.000937},\"reserved_data\":{},\"metric_meta\":{\"class_name\":0,\"class_id
\":0}},\"total_metric\":{\"total_metric_meta\":{},\"total_reserved_data\":{},\"total_metric_values\":
{\"recall\":0.005833,\"id\":0,\"precision\":0.000178,\"accuracy\":0.000937}}}",
"system_metric_list": {
  "cpuUsage": [
    "0",
    "3.10",
    "5.76",
    "0",
    "0",
    "0",
    "0"
  ],
  "memUsage": [
    "0",
    "0.77",
    "2.09",
    "0",
    "0",
    "0"
  ],
  "gpuUtil": [
    "0",
    "0.25",
    "0.88",
    "0",
    "0",
    "0",
    "0"
  ]
},
"dataset_name": "dataset-test",
"dataset_version_name": "dataset-version-test",
"spec_code": "xxxxxxx",
"start_time": 1563172362000,
"volumes": [
  {
    "nfs": {
      "id": "43b37236-9afa-4855-8174-32254b9562e7",
      "src_path": "192.168.8.150:/",
      "dest_path": "/home/work/nas",
      "read_only": false
    }
  }
],
},

```



```
{
  "host_path": {
    "src_path": "/root/work",
    "dest_path": "/home/mind",
    "read_only": false
  }
},
"pool_id": "pool9928813f",
"pool_name": "pnt1",
"nas_mount_path": "/home/work/nas",
"nas_share_addr": "192.168.8.150:/",
"nas_type": "nfs"
}
```

- Failed response

```
{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Status Code](#).

16.3.1.4 Deleting a Version of a Training Job

Function

This API is used to delete a version of a training job.

Calling this API is an asynchronous operation. The job status can be obtained by calling the APIs described in [Querying a Training Job List](#) and [Querying the Details About a Training Job Version](#).

URI

DELETE /v1/{project_id}/training-jobs/{job_id}/versions/{version_id}

[Table 16-610](#) describes the required parameters.

Table 16-610 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
job_id	Yes	Long	ID of a training job
version_id	Yes	Long	Version ID of a training job

Request Body

None

Response Body

[Table 16-611](#) describes the response parameters.

Table 16-611 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.

Sample Request

```
DELETE https://endpoint/v1/{project_id}/training-jobs/10/versions/10
```

Sample Response

- Successful response


```
{
  "is_success": true
}
```
- Failed response


```
{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Status Code](#).

16.3.1.5 Obtaining Training Job Versions

Function

This API is used to obtain the version of a specified training job based on the job ID.

URI

```
GET /v1/{project_id}/training-jobs/{job_id}/versions
```

[Table 16-612](#) describes the required parameters.

Table 16-612 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
job_id	Yes	Long	ID of a training job

Table 16-613 Query parameters

Parameter	Mandatory	Type	Description
per_page	No	Integer	Number of job parameters displayed on each page. The value range is [1, 1000]. Default value: 10
page	No	Integer	Index of the page to be queried <ul style="list-style-type: none"> If paging is required, set page to 1. The default value of page is 0, indicating that paging is not supported.

Request Body

None

Response Body

[Table 16-614](#) describes the response parameters.

Table 16-614 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
job_id	Long	ID of a training job

Parameter	Type	Description
job_name	String	Name of a training job
job_desc	String	Description of a training job
version_count	Long	Number of versions of a training job
versions	JSON Array	Version parameters of a training job. For details, see the sample response. For details about the attributes, see Table 16-615 .

Table 16-615 versions parameters

Parameter	Type	Description
version_id	Long	Version ID of a training job
version_name	String	Version name of a training job
pre_version_id	Long	ID of the previous version of a training job
engine_type	Long	Engine type of a training job
engine_name	String	Name of the engine selected for a training job
engine_id	Long	ID of the engine selected for a training job
engine_version	String	Version of the engine selected for a training job
status	Int	Status of a training job
app_url	String	Code directory of a training job
boot_file_url	String	Boot file of a training job
create_time	Long	Time when a training job is created
parameter	JSON Array	Running parameters of a training job. This parameter is a container environment variable when a training job uses a custom image. For details, see Table 16-616 .
duration	Long	Training job running duration, in milliseconds
spec_id	Long	ID of the resource specifications selected for a training job
core	String	Number of cores of the resource specifications
cpu	String	CPU memory of the resource specifications

Parameter	Type	Description
gpu	Boolean	Whether to use GPUs
gpu_num	Integer	Number of GPUs of the resource specifications
gpu_type	String	GPU type of the resource specifications
worker_server_num	Integer	Number of workers in a training job
data_url	String	Dataset of a training job
train_url	String	OBS path of the training job output file
log_url	String	OBS URL of the logs of a training job. By default, this parameter is left blank. Example value: /usr/log/
dataset_version_id	String	Dataset version ID of a training job
dataset_id	String	Dataset ID of a training job
data_source	JSON Array	Dataset of a training job. For details, see Table 16-617 .
model_id	Long	Model ID of a training job
model_metric_list	String	Model metrics of a training job. For details, see Table 16-618 .
system_metric_list	String	System monitoring metrics of a training job. For details, see Table 16-619 .
user_image_url	String	SWR URL of a custom image used by a training job
user_command	String	Boot command used to start the container of a custom image of a training job
resource_id	String	Charged resource ID of a training job
dataset_name	String	Dataset of a training job
start_time	Long	Training start time
volumes	JSON Array	Storage volume that can be used by a training job. For details, see Table 16-624 .
dataset_version_name	String	Dataset of a training job
pool_name	String	Name of a resource pool
pool_id	String	ID of a resource pool
nas_mount_path	String	Local mount path of SFS Turbo (NAS). Example value: /home/work/nas

Parameter	Type	Description
nas_share_address	String	Shared path of SFS Turbo (NAS). Example value: 192.168.8.150:/
nas_type	String	Only NFS is supported. Example value: nfs

Table 16-616 parameter parameters

Parameter	Type	Description
label	String	Parameter name
value	String	Parameter value

Table 16-617 data_source parameters

Parameter	Type	Description
dataset_id	String	Dataset ID of a training job
dataset_version	String	Dataset version ID of a training job
type	String	Dataset type <ul style="list-style-type: none"> • obs: Data from OBS is used. • dataset: Data from a specified dataset is used.
data_url	String	OBS bucket path

Table 16-618 model_metric_list parameters

Parameter	Type	Description
metric	JSON Array	Validation metrics of a classification of a training job.
total_metric	JSON	Overall validation parameters of a training job. For details, see Table 16-622 .

Table 16-619 system_metric_list parameters

Parameter	Type	Description
cpuUsage	Array	CPU usage of a training job
memUsage	Array	Memory usage of a training job

Parameter	Type	Description
gpuUtil	Array	GPU usage of a training job

Table 16-620 metric parameters

Parameter	Type	Description
metric_values	JSON	Validation metrics of a classification of a training job. For details, see Table 16-621 .
reserved_data	JSON	Reserved parameter
metric_metadata	JSON	Classification of a training job, including the classification ID and name

Table 16-621 metric_values parameters

Parameter	Type	Description
recall	Float	Recall of a classification of a training job
precision	Float	Precision of a classification of a training job
accuracy	Float	Accuracy of a classification of a training job

Table 16-622 total_metric parameters

Parameter	Type	Description
total_metric_meta	JSON Array	Reserved parameter
total_reserved_data	JSON Array	Reserved parameter
total_metric_values	JSON Array	Overall validation metrics of a training job. For details, see Table 16-623 .

Table 16-623 total_metric_values parameters

Parameter	Type	Description
f1_score	Float	F1 score of a training job. This parameter is used only by some preset algorithms and is automatically generated. It is for reference only.

Parameter	Type	Description
recall	Float	Total recall of a training job
precision	Float	Total precision of a training job
accuracy	Float	Total accuracy of a training job

Table 16-624 volumes parameters

Parameter	Type	Description
nfs	object	Storage volume of the shared file system type. Only the training jobs running in a resource pool with the shared file system network connected support such storage volumes. For details, see Table 16-625 .
host_path	object	Storage volume of the host file system type. Only training jobs running in a dedicated resource pool support such storage volumes. For details, see Table 16-626 .

Table 16-625 nfs parameters

Parameter	Type	Description
id	String	ID of an SFS Turbo file system
src_path	String	Address of an SFS Turbo file system
dest_path	String	Local path to a training job
read_only	Boolean	Whether dest_path is read-only. The default value is false . <ul style="list-style-type: none"> • true: read-only permission • false: read/write permission. This is the default value.

Table 16-626 host_path parameters

Parameter	Type	Description
src_path	String	Local path to a host
dest_path	String	Local path to a training job

Parameter	Type	Description
read_only	Boolean	Whether dest_path is read-only. The default value is false . <ul style="list-style-type: none"> true: read-only permission false: read/write permission. This is the default value.

Sample Request

The following shows how to obtain the job version details on the first page when **job_id** is set to **10** and five records are displayed on each page.

```
GET https://endpoint/v1/{project_id}/training-jobs/10/versions?per_page=5&page=1
```

Sample Response

- Successful response

```
{
  "is_success": true,
  "job_id": 10,
  "job_name": "testModelArtsJob",
  "job_desc": "testModelArtsJob desc",
  "version_count": 2,
  "versions": [
    {
      "version_id": 10,
      "version_name": "V0004",
      "pre_version_id": 5,
      "engine_type": 1,
      "engine_name": "TensorFlow",
      "engine_id": 1,
      "engine_version": "TF-1.4.0-python2.7",
      "status": 10,
      "app_url": "/usr/app/",
      "boot_file_url": "/usr/app/boot.py",
      "create_time": 1524189990635,
      "parameter": [
        {
          "label": "learning_rate",
          "value": 0.01
        }
      ],
      "duration": 532003,
      "spec_id": 1,
      "core": 2,
      "cpu": 8,
      "gpu": true,
      "gpu_num": 2,
      "gpu_type": "Pnt1",
      "worker_server_num": 1,
      "data_url": "/usr/data/",
      "train_url": "/usr/train/",
      "log_url": "/usr/log/",
      "dataset_version_id": "2ff0d6ba-c480-45ae-be41-09a8369bfc90",
      "dataset_id": "38277e62-9e59-48f4-8d89-c8cf41622c24",
      "data_source": [
        {
          "type": "obs",
          "data_url": "/qianjiajun-test/minst/data/"
        }
      ]
    }
  ],
}
```

```

        "user_image_url": "100.125.5.235:20202/jobmng/custom-cpu-base:1.0",
        "user_command": "bash -x /home/work/run_train.sh python /home/work/user-job-dir/app/
mnist/mnist_softmax.py --data_url /home/work/user-job-dir/app/mnist_data",
        "model_id": 1,
        "model_metric_list": "{ \"metric\": { \"metric_values\": { \"recall\": 0.005833, \"precision
\": 0.000178, \"accuracy\": 0.000937, \"reserved_data\": {}, \"metric_meta\": { \"class_name\": 0, \"class_id
\": 0 } }, \"total_metric\": { \"total_metric_meta\": {}, \"total_reserved_data\": {}, \"total_metric_values\":
{ \"recall\": 0.005833, \"id\": 0, \"precision\": 0.000178, \"accuracy\": 0.000937 } } }",
        "system_metric_list": "{ \"cpuUsage\":
[ \"0\", \"3.10\", \"5.76\", \"0\", \"0\", \"0\", \"0\" ], \"memUsage\":
[ \"0\", \"0.77\", \"2.09\", \"0\", \"0\", \"0\", \"0\" ], \"gpuUtil\":
[ \"0\", \"0.25\", \"0.88\", \"0\", \"0\", \"0\", \"0\" ], \"gpuMemUsage\":
[ \"0\", \"0.65\", \"6.01\", \"0\", \"0\", \"0\", \"0\" ], \"diskReadRate\":
[ \"0\", \"91811.07\", \"38846.63\", \"0\", \"0\", \"0\", \"0\" ], \"diskWriteRate\":
[ \"0\", \"2.23\", \"0.94\", \"0\", \"0\", \"0\", \"0\" ], \"recvBytesRate\":
[ \"0\", \"5770405.50\", \"2980077.75\", \"0\", \"0\", \"0\", \"0\" ], \"sendBytesRate\":
[ \"0\", \"12607.17\", \"10487410.00\", \"0\", \"0\", \"0\", \"0\" ], \"interval\": 1",
        "dataset_name": "dataset-test",
        "dataset_version_name": "dataset-version-test",

        "start_time": 1563172362000,
        "volumes": [
            {
                "nfs": {
                    "id": "43b37236-9afa-4855-8174-32254b9562e7",
                    "src_path": "192.168.8.150:/",
                    "dest_path": "/home/work/nas",
                    "read_only": false
                }
            },
            {
                "host_path": {
                    "src_path": "/root/work",
                    "dest_path": "/home/mind",
                    "read_only": false
                }
            }
        ],
        "pool_id": "pool9928813f",
        "pool_name": "pnt1",
        "nas_mount_path": "/home/work/nas",
        "nas_share_addr": "192.168.8.150:/",
        "nas_type": "nfs"
    }
}

```

- Failed response

```

{
    "is_success": false,
    "error_message": "Error string",
    "error_code": "ModelArts.0105"
}

```

Status Code

For details about the status code, see [Status Code](#).

16.3.1.6 Creating a Version of a Training Job

Function

This API is used to create a version of a training job.

Calling this API is an asynchronous operation. The job status can be obtained by calling the APIs described in [Querying a Training Job List](#) and [Querying the Details About a Training Job Version](#).

URI

POST /v1/{project_id}/training-jobs/{job_id}/versions

[Table 16-627](#) describes the required parameters.

Table 16-627 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
job_id	Yes	Long	ID of a training job

Request Body

[Table 16-628](#) describes the request parameters.

Table 16-628 Request parameters

Parameter	Mandatory	Type	Description
job_desc	No	String	Description of a training job. The value must contain 0 to 256 characters. By default, this parameter is left blank.
config	Yes	Object	Parameters for creating a training job For details, see Table 16-629 .

Table 16-629 config parameters

Parameter	Mandatory	Type	Description
worker_server_num	Yes	Integer	Number of workers in a training job. Obtain the maximum value from Querying Job Resource Specifications .

Parameter	Mandatory	Type	Description
app_url	Yes	String	Code directory of a training job, for example, /usr/app/ . This parameter must be used together with boot_file_url . After setting model_id , you do not need to set app_url or boot_file_url , and engine_id .
boot_file_url	Yes	String	Boot file of a training job, which needs to be stored in the code directory. Example value: /usr/app/boot.py This parameter must be used together with app_url . After setting model_id , you do not need to set app_url or boot_file_url , and engine_id .
parameter	No	Array<Object>	Running parameters of a training job. It is a collection of label-value pairs. For details, see the sample request. This parameter is a container environment variable when a training job uses a custom image. For details, see Table 16-631 .
data_url	No	String	OBS URL of the dataset required by a training job. By default, this parameter is left blank. For example, /usr/data/ . This parameter cannot be used together with data_source or dataset_id and dataset_version_id . However, one of the parameters must exist.
dataset_id	No	String	Dataset ID of a training job. This parameter must be used together with dataset_version_id , but cannot be used together with data_url or data_source .
dataset_version_id	No	String	Dataset version ID of a training job. This parameter must be used together with dataset_id , but cannot be used together with data_url or data_source .
data_source	No	JSON Array	Dataset of a training job. This parameter cannot be used with data_url , dataset_id , or dataset_version_id . For details, see Table 16-630 .

Parameter	Mandatory	Type	Description
spec_id	Yes	Long	ID of the resource specifications selected for a training job. Obtain the ID by calling the API described in Querying Job Resource Specifications . When creating a public pool job, ensure that spec_id is mandatory and cannot be used with pool_id .
pool_id	Yes	String	ID of a dedicated resource pool. To obtain the ID, do as follows: Log in to the ModelArts management console, choose Dedicated Resource Pools in the navigation pane on the left, and view the resource pool ID in the dedicated resource pool list. When creating a dedicated pool job, ensure that pool_id is mandatory and cannot be used with spec_id .
engine_id	Yes	Long	ID of the engine selected for a training job. The default value is 1 . After setting model_id , you do not need to set app_url or boot_file_url , and engine_id . Obtain the ID by calling the API described in Querying Job Engine Specifications .
model_id	Yes	Long	ID of the built-in model of a training job. Obtain model_id by calling the API described in Querying a Built-in Algorithm . After setting model_id , you do not need to set app_url or boot_file_url , and engine_id .
train_url	Yes	String	OBS URL of the output file of a training job. By default, this parameter is left blank. Example value: /bucket/trainUrl/
log_url	No	String	OBS URL of the logs of a training job. By default, this parameter is left blank. Example value: /usr/train/
pre_version_id	Yes	Long	ID of the previous version of a training job. You can obtain the value of version_id by calling the API described in Obtaining Training Job Versions .
user_image_url	No	String	SWR URL of a custom image used by a training job. Example value: 100.125.5.235:20202/jobmng/custom-cpu-base:1.0

Parameter	Mandatory	Type	Description
user_command	No	String	Boot command used to start the container of a custom image of a training job. The format is bash /home/work/run_train.sh python /home/work/user-job-dir/app/train.py {python_file_parameter} .

Table 16-630 data_source parameters

Parameter	Mandatory	Type	Description
dataset_id	No	String	Dataset ID of a training job. This parameter must be used together with dataset_version_id , but cannot be used together with data_url .
dataset_version	No	String	Dataset version ID of a training job. This parameter must be used together with dataset_id , but cannot be used together with data_url .
type	No	String	Dataset type. The value can be obs or dataset . obs and dataset cannot be used at the same time.
data_url	No	String	OBS bucket path. This parameter cannot be used together with dataset_id or dataset_version .

Table 16-631 parameter parameters

Parameter	Mandatory	Type	Description
label	No	String	Parameter name
value	No	String	Parameter value

Response Body

[Table 16-632](#) describes the response parameters.

Table 16-632 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
job_id	Long	ID of a training job
job_name	String	Name of a training job
status	Int	Status of a training job. For details about the job statuses, see Job Statuses .
create_time	Long	Timestamp when a training job is created
version_id	Long	Version ID of a training job
version_name	String	Version name of a training job

Sample Request

The following shows how to create a job whose **job_id** is **10** and **pre_version_id** is **20**.

```
POST https://endpoint/v1/{project_id}/training-jobs/10/versions/
{
  "job_desc": "This is a ModelArts job",
  "config": {
    "worker_server_num": 1,
    "app_url": "/usr/app/",
    "boot_file_url": "/usr/app/boot.py",
    "parameter": [
      {
        "label": "learning_rate",
        "value": "0.01"
      },
      {
        "label": "batch_size",
        "value": "32"
      }
    ]
  },
  "dataset_id": "38277e62-9e59-48f4-8d89-c8cf41622c24",
  "dataset_version_id": "2ff0d6ba-c480-45ae-be41-09a8369bfc90",
  "spec_id": 1,
  "engine_id": 1,
  "train_url": "/usr/train/",
  "log_url": "/usr/log/",
  "pre_version_id": 20,
  "model_id": 1,
  "pool_id": "test-pool"
}
```

```
}
}
```

Sample Response

- Successful response

```
{
  "is_success": true,
  "job_id": 10,
  "job_name": "TestModelArtsJob",
  "status": 1,
  "create_time": 1524189990635,
  "version_id": 10,
  "version_name": "V0001"
}
```

- Failed response

```
{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Status Code](#).

16.3.1.7 Stopping a Training Job

Function

This API is used to stop a training job.

Calling this API is an asynchronous operation. The job status can be obtained by calling the APIs described in [Querying a Training Job List](#) and [Querying the Details About a Training Job Version](#).

URI

POST /v1/{project_id}/training-jobs/{job_id}/versions/{version_id}/stop

[Table 16-633](#) describes the required parameters.

Table 16-633 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
job_id	Yes	Long	ID of a training job
version_id	Yes	Long	Version ID of a training job

Request Body

None

Response Body

[Table 16-634](#) describes the response parameters.

Table 16-634 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.

Sample Request

The following shows how to stop a version of the job whose **job_id** is **10** and **version_id** is **10**.

```
POST https://endpoint/v1/{project_id}/training-jobs/10/versions/10/stop
```

Sample Response

- Successful response


```
{
  "is_success": true
}
```
- Failed response


```
{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Status Code](#).

16.3.1.8 Modifying the Description of a Training Job

Function

This API is used to modify the description of a training job.

URI

PUT /v1/{project_id}/training-jobs/{job_id}

[Table 16-635](#) describes the required parameters.

Table 16-635 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
job_id	Yes	Long	ID of a training job

Request Body

[Table 16-636](#) describes the request parameters.

Table 16-636 Parameters

Parameter	Mandatory	Type	Description
job_desc	Yes	String	Description of a training job. The value must contain 0 to 256 characters.

Response Body

[Table 16-637](#) describes the response parameters.

Table 16-637 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful.
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.

Sample Request

The following shows how to modify the description of the job whose **job_id** is **10**.

```
PUT https://endpoint/v1/{project_id}/training-jobs/10
{
  "job_desc": "This is a ModelArts job"
}
```

Sample Response

- Successful response

```
{
  "is_success": true
}
```

- Failed response

```
{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Status Code](#).

16.3.1.9 Deleting a Training Job

Function

This API is used to delete a training job.

Calling this API is an asynchronous operation. The job status can be obtained by calling the APIs described in [Querying a Training Job List](#) and [Querying the Details About a Training Job Version](#).

URI

DELETE /v1/{project_id}/training-jobs/{job_id}

[Table 16-638](#) describes the required parameters.

Table 16-638 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
job_id	Yes	Long	ID of a training job

Request Body

None

Response Body

[Table 16-639](#) describes the response parameters.

Table 16-639 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.

Sample Request

The following shows how to delete the job whose **job_id** is **10**.

```
DELETE https://endpoint/v1/{project_id}/training-jobs/10
```

Sample Response

- Successful response


```
{
  "is_success": true
}
```
- Failed response


```
{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Status Code](#).

16.3.1.10 Obtaining the Name of a Training Job Log File

Function

This API is used to obtain the name of a training job log file.

URI

```
GET /v1/{project_id}/training-jobs/{job_id}/versions/{version_id}/log/file-names
```

[Table 16-640](#) describes the required parameters.

Table 16-640 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
job_id	Yes	Long	ID of a training job
version_id	Yes	Long	Version ID of a training job

Request Body

None

Response Body

[Table 16-641](#) describes the response parameters.

Table 16-641 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
log_file_list	String	Log file name of a training job. A single-node job has only one log file, and a distributed job has multiple log files.

Sample Request

The following shows how to obtain the log files of the job whose **job_id** is **10** and **version_id** is **10**.

```
GET https://endpoint/v1/{project_id}/training-jobs/10/versions/10/log/file-names
```

Sample Response

- Successful response

```
{
  "is_success": true,
  "log_file_list": [
```

```

    "teseJob.0"
  ]
}

```

- Failed response

```

{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}

```

Status Code

For details about the status code, see [Status Code](#).

16.3.1.11 Querying a Built-in Algorithm

Function

This API is used to obtain the details about a built-in model.

URI

GET /v1/{project_id}/built-in-algorithms

[Table 16-642](#) describes the required parameters.

Table 16-642 Parameters

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

Request Body

[Table 16-643](#) describes the request parameters.

Table 16-643 Query parameters

Parameter	Mandatory	Type	Description
per_page	No	Integer	Number of job parameters displayed on each page. The value range is [1, 100]. Default value: 10
page	No	Integer	Index of the page to be queried. Default value: 1

Parameter	Mandatory	Type	Description
sortBy	No	String	Sorting mode of the query. The value can be engine , model_name , model_precision , model_usage , model_precision , model_size , create_time , or parameter . Default value: engine
order	No	String	Sorting order. Options: <ul style="list-style-type: none"> • asc: ascending order • desc: descending order. The default value is desc.
search_content	No	String	Search content, for example, a parameter name. By default, this parameter is left blank.

Response Body

[Table 16-644](#) describes the response parameters.

Table 16-644 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
model_total_count	Integer	Number of models
models	Array<Object>	Model parameter list. For details, see Table 16-645 .

Table 16-645 models structure data

Parameter	Type	Description
model_id	Integer	Model ID
model_name	String	Model name

Parameter	Type	Description
model_usage	Integer	Model usage. Options: <ul style="list-style-type: none"> • 1: image classification • 2: object class and location • 3: image semantic segmentation • 4: natural language processing • 5: image embedding
model_precision	String	Model precision
model_size	Long	Model size, in bytes
model_training_dataset	String	Model training dataset
model_dataset_format	String	Dataset format required by a model
model_description_url	String	URL of the model description
parameter	String	Running parameters of a model. This parameter is a container environment variable when a training job uses a custom image. For details, see the sample request.
create_time	Long	Time when a model is created
engine_id	Long	Engine ID of a model
engine_name	String	Engine name of a model
engine_version	String	Engine version of a model

Table 16-646 parameter parameters

Parameter	Type	Description
label	String	Parameter name
value	String	Parameter value
required	Boolean	Whether a parameter is mandatory

Sample Request

The following shows how to obtain the algorithm whose name contains **configname**.


```
GET https://endpoint/v1/{project_id}/built-in-algorithms?
per_page=10&page=1&sortBy=engine&order=asc&search_content=model
```

Sample Response

- Successful response

```
{
  "models": [
    {
      "model_id": 4,
      "model_name": "ResNet_v2_50",
      "model_usage": 1,
      "model_precision": "75.55%(top1), 92.6%(top5)",
      "model_size": 102503801,
      "model_train_dataset": "ImageNet, 1,000 classes for image classification",
      "model_dataset_format": "shape: [H>=32, W>=32, C>=1]; type: int8",
      "model_description_url": "https://github.com/apache/incubator-mxnet/blob/master/example/
image-classification/symbols/resnet.py",
      "parameter": "[{\label: \"batch_size\", \"value\": \"4\", \"placeholder_cn\": \"Total number of
training images updated each time\", \"placeholder_en\": \"\", \"required\": true}, {\label: \"lr\", \"value
\": \"0.0001\", \"placeholder_cn\": \"Learning rate\", \"placeholder_en\": \"\", \"required\": true}, {\label
\": \"save_frequency\", \"value\": \"1\", \"placeholder_cn\": \"Interval for saving the model, indicating that
the model is saved every N epochs\", \"placeholder_en\": \"\", \"required\": true}, {\label: \"num_classes
\", \"value\": \"\", \"placeholder_cn\": \"Total number of image classes in training\", \"placeholder_en
\": \"\", \"required\": true}, {\label: \"num_epoch\", \"value\": \"10\", \"placeholder_cn\": \"Number of
training epochs\", \"placeholder_en\": \"\", \"required\": true}]",
      "create_time": 1522218780025,
      "engine_id": 501,
      "engine_name": "MXNet",
      "engine_version": "MXNet-1.2.1-python2.7"
    },
    {
      "model_id": 5,
      "model_name": "Faster_RCNN_ResNet_v2_101",
      "model_usage": 2,
      "model_precision": "80.05%(mAP)",
      "model_size": 190936449,
      "model_train_dataset": "PASCAL VOC2007, 20 classes for object detection",
      "model_dataset_format": "shape: [H, W, C==3]; type: int8",
      "model_description_url": "https://github.com/apache/incubator-mxnet/tree/master/example/
rcnn",
      "parameter": "[{\label: \"lr\", \"value\": \"0.0001\", \"placeholder_cn\": \"Learning rate
\", \"placeholder_en\": \"\", \"required\": true}, {\label: \"eval_frequency\", \"value
\": \"1\", \"placeholder_cn\": \"Frequency for validating the model. By default, validation is performed
every epoch.\", \"placeholder_en\": \"\", \"required\": true}, {\label: \"momentum\", \"value
\": \"0.9\", \"placeholder_cn\": \"Momentum of the training network\", \"placeholder_en\": \"\", \"required
\": true}, {\label: \"wd\", \"value\": \"0.0005\", \"placeholder_cn\": \"Weight decay coefficient
\", \"placeholder_en\": \"\", \"required\": true}, {\label: \"num_classes\", \"value\": \"\", \"placeholder_cn
\": \"Total number of image classes in training. The value must plus 1 because there is a background
class.\", \"placeholder_en\": \"\", \"required\": true}]",
      "create_time": 1525313224596,
      "engine_id": 501,
      "engine_name": "MXNet",
      "engine_version": "MXNet-1.2.1-python2.7"
    }
  ],
  "model_total_count": 41,
  "is_success": true
}
```

- Failed response

```
{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Status Code](#).

16.3.1.12 Querying Training Job Logs

Function

This API is used to obtain detailed information about training job logs by row.

URI

GET /v1/{project_id}/training-jobs/{job_id}/versions/{version_id}/aom-log

[Table 16-647](#) describes the required parameters.

Table 16-647 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
job_id	Yes	Long	ID of a training job
version_id	Yes	Long	Version ID of a training job

Table 16-648 Query parameters

Parameter	Mandatory	Type	Description
base_line	No	String	Base line of the log, which is obtained from an API response. If the value is empty, the latest log is obtained.
lines	No	Integer	Length of the obtained log. The default value is 50 lines. The value range is [0, 500].
log_file	Yes	String	Name of the log file to be viewed. For details about how to obtain the log file name, see Obtaining the Name of a Training Job Log File .
order	No	String	Log query direction <ul style="list-style-type: none"> desc: Query next records. asc: Query previous records.

Request Body

None

Response Body

[Table 16-649](#) describes the response parameters.

Table 16-649 Parameters

Parameter	Type	Description
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
content	String	Content of the requested log
lines	Integer	Lines of the obtained logs
start_line	String	Start position of the obtained log
end_line	String	End position of the obtained log
is_success	Boolean	Whether the request is successful

Sample Request

The following shows how to obtain the logs contained in **log1.log** of the job whose **job_id** is **10** and **version_id** is **10**.

```
GET https://endpoint/v1/{project_id}/training-jobs/10/versions/10/aom-log?log_file=log1.log&base_line=1551252759254000002&lines=50&order=desc
```

Sample Response

- Successful response


```
{
  "is_success": true,
  "start_line":1551252759254000002,
  "content": "Log string",
  "end_line": "1551252759254000003",
  "lines": "1"
}
```
- Failed response


```
{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Status Code](#).

16.3.2 Training Job Parameter Configuration

16.3.2.1 Creating a Training Job Configuration

Function

This API is used to create a training job configuration.

URI

POST /v1/{project_id}/training-job-configs

[Table 16-650](#) describes the required parameters.

Table 16-650 Parameters

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

Request Body

[Table 16-651](#) describes the request parameters.

Table 16-651 Parameters

Parameter	Mandatory	Type	Description
config_name	Yes	String	Name of a training job configuration. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).
config_desc	No	String	Description of a training job configuration. The value must contain 0 to 256 characters. By default, this parameter is left blank.
worker_server_num	Yes	Integer	Number of workers in a training job. Obtain the maximum value from Querying Job Resource Specifications .

Parameter	Mandatory	Type	Description
app_url	Yes	String	Code directory of a training job, for example, <code>/usr/app/</code> . This parameter must be used together with <code>boot_file_url</code> . After setting <code>model_id</code> , you do not need to set <code>app_url</code> or <code>boot_file_url</code> , and <code>engine_id</code> .
boot_file_url	Yes	String	Boot file of a training job, which needs to be stored in the code directory, for example, <code>/usr/app/boot.py</code> . This parameter must be used together with <code>app_url</code> . After setting <code>model_id</code> , you do not need to set <code>app_url</code> or <code>boot_file_url</code> , and <code>engine_id</code> .
model_id	Yes	Long	Model ID of a training job. Obtain <code>model_id</code> by calling the API described in Querying a Built-in Algorithm . After setting <code>model_id</code> , you do not need to set <code>app_url</code> or <code>boot_file_url</code> , and <code>engine_id</code> .
parameter	No	Array<Object>	Running parameters of a training job. It is a collection of label-value pairs. For details, see the sample request. This parameter is a container environment variable when a training job uses a custom image. For details, see Table 16-653 .
spec_id	Yes	Long	ID of the resource specifications selected for a training job. Obtain the ID by calling the API described in Querying Job Resource Specifications .
data_url	No	String	OBS URL of the dataset required by a training job, for example, <code>/usr/data/</code> . This parameter cannot be used together with <code>data_source</code> or <code>dataset_id</code> and <code>dataset_version_id</code> . However, one of the parameters must exist.
dataset_id	No	String	Dataset ID of a training job. This parameter must be used together with <code>dataset_version_id</code> , but cannot be used together with <code>data_url</code> or <code>data_source</code> .
dataset_version_id	No	String	Dataset version ID of a training job. This parameter must be used together with <code>dataset_id</code> , but cannot be used together with <code>data_url</code> or <code>data_source</code> .

Parameter	Mandatory	Type	Description
data_source	No	JSON Array	Dataset of a training job. This parameter cannot be used together with data_url or dataset_id and dataset_version_id . For details, see Table 16-652 .
engine_id	Yes	Long	ID of the engine selected for a training job. The default value is 1 . After setting model_id , you do not need to set app_url or boot_file_url , and engine_id . Obtain the ID by calling the API described in Querying Job Engine Specifications .
train_url	No	String	OBS URL of the output file of a training job. By default, this parameter is left blank. Example value: /usr/train/
log_url	No	String	OBS URL of the logs of a training job. By default, this parameter is left blank. Example value: /usr/train/
user_image_url	No	String	SWR URL of a custom image used by a training job. Example value: 100.125.5.235:20202/jobmng/custom-cpu-base:1.0
user_command	No	String	Boot command used to start the container of a custom image of a training job. The format is bash /home/work/run_train.sh python /home/work/user-job-dir/app/train.py {python_file_parameter} . The boot script run_train.sh must be invoked to initialize variables, such as the AK/SK. The run_train.sh script is followed by python to ensure that the Python files can be executed in the initialized variable environment. run_train.sh is used to start Python.

Table 16-652 data_source parameters

Parameter	Mandatory	Type	Description
dataset_id	No	String	Dataset ID of a training job. This parameter must be used together with dataset_version_id , but cannot be used together with data_url .

Parameter	Mandatory	Type	Description
dataset_version	No	String	Dataset version ID of a training job. This parameter must be used together with dataset_id , but cannot be used together with data_url .
type	No	String	Dataset type. The value can be obs or dataset . obs and dataset cannot be used at the same time.
data_url	No	String	OBS bucket path. This parameter cannot be used together with dataset_id or dataset_version .

Table 16-653 parameter parameters

Parameter	Mandatory	Type	Description
label	No	String	Parameter name.
value	No	String	Parameter value.

Response Body

[Table 16-654](#) describes the response parameters.

Table 16-654 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.

Sample Request

The following shows how to create a training job configuration whose name is **testConfig** and description is **This is config**.

```
POST https://endpoint/v1/{project_id}/training-job-configs
{
```

```
"config_name": "testConfig",
"config_desc": "This is config",
"worker_server_num": 1,
"app_url": "/usr/app/",
"boot_file_url": "/usr/app/boot.py",
"parameter": [
  {
    "label": "learning_rate",
    "value": "0.01"
  },
  {
    "label": "batch_size",
    "value": "32"
  }
],
"spec_id": 1,
"dataset_id": "38277e62-9e59-48f4-8d89-c8cf41622c24",
"dataset_version_id": "2ff0d6ba-c480-45ae-be41-09a8369bfc90",
"engine_id": 1,
"train_url": "/usr/train/",
"log_url": "/usr/log/",
"model_id": 1
}
```

Sample Response

- Successful response

```
{
  "is_success": true
}
```

- Failed response

```
{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Status Code](#).

16.3.2.2 Querying a List of Training Job Configurations

Function

This API is used to obtain the created training job configurations that meet the search criteria.

URI

GET /v1/{project_id}/training-job-configs

[Table 16-655](#) describes the required parameters.

Table 16-655 Parameters

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

Request Body

[Table 16-656](#) describes the request parameters.

Table 16-656 Parameters

Parameter	Mandatory	Type	Description
per_page	No	Integer	Number of job parameters displayed on each page. The value range is [1, 1000]. Default value: 10
page	No	Integer	Index of the page to be queried. Default value: 1
sortBy	No	String	Sorting mode of the query. The value can be config_name , config_desc , or create_time . The default value is config_name . create_time is not supported for sample sorting.
order	No	String	Sorting order. Options: <ul style="list-style-type: none"> • asc: ascending order • desc: descending order. The default value is desc.
search_content	No	String	Search content, for example, a parameter name. By default, this parameter is left blank.
config_type	No	String	Configuration type to be queried. Options: <ul style="list-style-type: none"> • custom: Query the custom configurations. • sample: Query the sample configurations. The default value is custom.

Response Body

[Table 16-657](#) describes the response parameters.

Table 16-657 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
config_total_count	Integer	Total number of the queried training job configurations
configs	Array of ConfigResponse objects	configs parameters

Table 16-658 **configs** parameters

Parameter	Type	Description
config_name	String	Name of a training job configuration
config_desc	String	Description of a training job configuration
create_time	Long	Time when a training job is created
engine_type	Integer	Engine type of a training job
engine_name	String	Name of the engine selected for a training job
engine_id	Long	ID of the engine selected for a training job
engine_version	String	Version of the engine selected for a training job
user_image_url	String	SWR URL of a custom image used by a training job. Example value: 100.125.5.235:20202/jobmng/custom-cpu-base:1.0
user_command	String	Boot command used to start the container of a custom image of a training job. The format is bash /home/work/run_train.sh python /home/work/user-job-dir/app/train.py {python_file_parameter} .

Sample Request

```
GET https://endpoint/v1/{project_id}/training-job-configs?
per_page=10&page=1&sortBy=create_time&order=asc&search_content=configname
```

Sample Response

- Successful response

```
{
  "is_success": true,
  "config_total_count": 3,
  "configs": [
    {
      "config_name": "testConfig",
      "config_desc": "This is config",
      "create_time": 1524189990635,
      "engine_type": 1,
      "engine_name": "TensorFlow",
      "engine_id": 1,
      "engine_version": "TF-1.4.0-python2.7",
      "user_image_url": "100.125.5.235:20202/jobmng/custom-cpu-base:1.0",
      "user_command": "bash -x /home/work/run_train.sh python /home/work/user-job-dir/app/
mnist/mnist_softmax.py --data_url /home/work/user-job-dir/app/mnist_data"
    }
  ]
}
```

- Failed response

```
{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Status Code](#).

16.3.2.3 Modifying a Training Job Configuration

Function

This API is used to modify a training job configuration.

URI

```
PUT /v1/{project_id}/training-job-configs/{config_name}
```

[Table 16-659](#) describes the required parameters.

Table 16-659 Parameters

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

Parameter	Mandatory	Type	Description
config_name	Yes	String	Name of a training job configuration

Request Body

[Table 16-660](#) describes the request parameters.

Table 16-660 Parameters

Parameter	Mandatory	Type	Description
config_desc	No	String	Description of a training job configuration. The value must contain 0 to 256 characters. By default, this parameter is left blank.
worker_server_num	Yes	Integer	Number of workers in a training job. Obtain the maximum value from Querying Job Resource Specifications .
app_url	Yes	String	Code directory of a training job, for example, <code>/usr/app/</code> . This parameter must be used together with <code>boot_file_url</code> . After setting <code>model_id</code> , you do not need to set <code>app_url</code> or <code>boot_file_url</code> , and <code>engine_id</code> .
boot_file_url	Yes	String	Boot file of a training job, which needs to be stored in the code directory, for example, <code>/usr/app/boot.py</code> . This parameter must be used together with <code>app_url</code> . After setting <code>model_id</code> , you do not need to set <code>app_url</code> or <code>boot_file_url</code> , and <code>engine_id</code> .
model_id	Yes	Long	Model ID of a training job. Obtain <code>model_id</code> by calling the API described in Querying a Built-in Algorithm . After setting <code>model_id</code> , you do not need to set <code>app_url</code> or <code>boot_file_url</code> , and <code>engine_id</code> .

Parameter	Mandatory	Type	Description
parameter	No	Array<Object>	Running parameters of a training job. It is a collection of label-value pairs. This parameter is a container environment variable when a training job uses a custom image. For details, see Table 16-662 .
spec_id	Yes	Long	ID of the resource specifications selected for a training job. Obtain the ID by calling the API described in Querying Job Resource Specifications .
data_url	No	String	OBS URL of the dataset required by a training job, for example, <code>/usr/data/</code> . This parameter cannot be used together with data_source or dataset_id and dataset_version_id . However, one of the parameters must exist.
dataset_id	No	String	Dataset ID of a training job. This parameter must be used together with dataset_version_id , but cannot be used together with data_url or data_source .
dataset_version_id	No	String	Dataset version ID of a training job. This parameter must be used together with dataset_id , but cannot be used together with data_url or data_source .
data_source	No	JSON Array	Dataset of a training job. This parameter cannot be used together with data_url or dataset_id and dataset_version_id . For details, see Table 16-661 .
engine_id	Yes	Long	ID of the engine selected for a training job. The default value is 1 . Obtain the ID by calling the API described in Querying Job Engine Specifications .
train_url	No	String	OBS URL of the output file of a training job. By default, this parameter is left blank. Example value: <code>/usr/train/</code>

Parameter	Mandatory	Type	Description
log_url	No	String	OBS URL of the logs of a training job. By default, this parameter is left blank. Example value: <code>/usr/train/</code>
user_image_url	No	String	SWR URL of a custom image used by a training job. Example value: <code>100.125.5.235:20202/jobmng/custom-cpu-base:1.0</code>
user_command	No	String	Boot command used to start the container of a custom image of a training job. The format is <code>bash /home/work/run_train.sh python /home/work/user-job-dir/app/train.py {python_file_parameter}</code> .

Table 16-661 data_source parameters

Parameter	Mandatory	Type	Description
dataset_id	No	String	Dataset ID of a training job. This parameter must be used together with dataset_version_id , but cannot be used together with data_url .
dataset_version	No	String	Dataset version ID of a training job. This parameter must be used together with dataset_id , but cannot be used together with data_url .
type	No	String	Dataset type. The value can be obs or dataset . obs and dataset cannot be used at the same time.
data_url	No	String	OBS bucket path. This parameter cannot be used together with dataset_id or dataset_version .

Table 16-662 parameter parameters

Parameter	Mandatory	Type	Description
label	No	String	Parameter name.
value	No	String	Parameter value.

Response Body

[Table 16-663](#) describes the response parameters.

Table 16-663 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.

Sample Request

The following shows how to modify the job parameter configuration named **config**.

PUT https://endpoint/v1/{project_id}/training-job-configs/config

```
{
  "config_desc": "This is config",
  "worker_server_num": 1,
  "app_url": "/usr/app/",
  "boot_file_url": "/usr/app/boot.py",
  "parameter": [
    {
      "label": "learning_rate",
      "value": 0.01
    },
    {
      "label": "batch_size",
      "value": 32
    }
  ],
  "spec_id": 1,
  "dataset_id": "38277e62-9e59-48f4-8d89-c8cf41622c24",
  "dataset_version_id": "2ff0d6ba-c480-45ae-be41-09a8369bfc90",
  "engine_id": 1,
  "train_url": "/usr/train/",
  "log_url": "/usr/log/",
  "model_id": 1
}
```

Sample Response

- Successful response

```
{
  "is_success": true
}
```

- Failed response

```
{
  "is_success": false,
  "error_message": "Error string",
}
```

```

    "error_code": "ModelArts.0105"
  }

```

Status Code

For details about the status code, see [Table 15-1](#).

16.3.2.4 Deleting a Training Job Configuration

Function

This API is used to delete a training job configuration.

URI

DELETE /v1/{project_id}/training-job-configs/{config_name}

[Table 16-664](#) describes the required parameters.

Table 16-664 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
config_name	Yes	String	Name of a training job configuration

Request Body

None

Response Body

[Table 16-665](#) describes the response parameters.

Table 16-665 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.

Sample Request

The following shows how to delete the job configuration named **test-trainconfig**.

```
DELETE https://endpoint/v1/{project_id}/training-job-configs/test-trainconfig
```

Sample Response

- Successful response

```
{
  "is_success": true
}
```

- Failed response

```
{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Table 15-1](#).

16.3.2.5 Querying the Details About a Training Job Configuration

Function

This API is used to obtain the details about a specified training job configuration.

URI

```
GET /v1/{project_id}/training-job-configs/{config_name}
```

[Table 16-666](#) describes the required parameters.

Table 16-666 URI parameters

Parameter	Mandator y	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
config_nam e	Yes	String	Name of a training job configuration

Table 16-667 Query parameters

Parameter	Mandatory	Type	Description
config_type	No	String	Configuration type to be queried. Options: <ul style="list-style-type: none"> custom: Query the custom configurations. sample: Query the sample configurations. The default value is custom.

Request Body

None

Response Body

[Table 16-668](#) describes the response parameters.

Table 16-668 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
config_name	String	Name of a training job configuration
config_desc	String	Description of a training job configuration
worker_server_num	Integer	Number of workers in a training job
app_url	String	Code directory of a training job
boot_file_url	String	Boot file of a training job
model_id	Long	Model ID of a training job
parameter	JSON Array	Running parameters of a training job. It is a collection of label-value pairs. This parameter is a container environment variable when a training job uses a custom image. For details, see Table 16-673 .

Parameter	Type	Description
spec_id	Long	ID of the resource specifications selected for a training job
data_url	String	Dataset of a training job
dataset_id	String	Dataset ID of a training job
dataset_version_id	String	Dataset version ID of a training job
data_source	JSON Array	Dataset of a training job For details, see Table 16-669 .
engine_type	Integer	Engine type of a training job
engine_name	String	Name of the engine selected for a training job
engine_id	Long	ID of the engine selected for a training job
engine_version	String	Version of the engine selected for a training job
train_url	String	OBS URL of the output file of a training job. By default, this parameter is left blank. Example value: /usr/train/
log_url	String	OBS URL of the logs of a training job. By default, this parameter is left blank. Example value: /usr/train/
user_image_url	String	SWR URL of a custom image used by a training job
user_command	String	Boot command used to start the container of a custom image of a training job
spec_code	String	Resource specifications selected for a training job
gpu_type	String	GPU type of the resource specifications
create_time	Long	Time when a training job parameter configuration is created
cpu	String	CPU memory of the resource specifications
gpu_num	Integer	Number of GPUs of the resource specifications
core	String	Number of cores of the resource specifications
dataset_name	String	Dataset of a training job
dataset_version_name	String	Dataset of a training job
pool_id	String	ID of a resource pool

Parameter	Type	Description
pool_name	String	Name of a resource pool
volumes	JSON Array	Storage volume that can be used by a training job. For details, see Table 16-670 .
nas_mount_path	String	Local mount path of SFS Turbo (NAS). Example value: /home/work/nas
nas_share_addr	String	Shared path of SFS Turbo (NAS). Example value: 192.168.8.150:/
nas_type	String	Only NFS is supported. Example value: nfs

Table 16-669 data_source parameters

Parameter	Type	Description
dataset_id	String	Dataset ID of a training job
dataset_version	String	Dataset version ID of a training job
type	String	Dataset type. Options: <ul style="list-style-type: none"> • obs: Data from OBS is used. • dataset: Data from a specified dataset is used.
data_url	String	OBS bucket path

Table 16-670 volumes parameters

Parameter	Type	Description
nfs	Object	Storage volume of the shared file system type. Only the training jobs running in a resource pool with the shared file system network connected support such storage volumes. For details, see Table 16-671 .
host_path	Object	Storage volume of the host file system type. Only training jobs running in a dedicated resource pool support such storage volumes. For details, see Table 16-672 .

Table 16-671 nfs parameters

Parameter	Type	Description
id	String	ID of an SFS Turbo file system

Parameter	Type	Description
src_path	String	Address of an SFS Turbo file system
dest_path	String	Local path to a training job
read_only	Boolean	Whether dest_path is read-only. The default value is false . <ul style="list-style-type: none"> • true: read-only permission • false: read/write permission. This is the default value.

Table 16-672 host_path parameters

Parameter	Type	Description
src_path	String	Local path to a host
dest_path	String	Local path to a training job
read_only	Boolean	Whether dest_path is read-only. The default value is false . <ul style="list-style-type: none"> • true: read-only permission • false: read/write permission. This is the default value.

Table 16-673 parameter parameters

Parameter	Type	Description
label	String	Parameter name
value	String	Parameter value

Sample Request

The following shows how to obtain the details about the job configuration named **config123**.

```
GET https://endpoint/v1/{project_id}/training-job-configs/config123
```

Sample Response

- Successful response

```
{
  "spec_code": "modelarts.vm.gpu.v100",
  "user_image_url": "100.125.5.235:20202/jobmng/custom-cpu-base:1.0",
  "user_command": "bash -x /home/work/run_train.sh python /home/work/user-job-dir/app/mnist/mnist_softmax.py --data_url /home/work/user-job-dir/app/mnist_data",
  "gpu_type": "nvidia-v100",
  "dataset_version_id": "2ff0d6ba-c480-45ae-be41-09a8369bfc90",
```

```

"engine_name": "TensorFlow",
"is_success": true,
"nas_mount_path": "/home/work/nas",
"worker_server_num": 1,
"nas_share_addr": "192.168.8.150:/",
"train_url": "/test/minst/train_out/out1/",
"nas_type": "nfs",
"spec_id": 4,
"parameter": [
  {
    "label": "learning_rate",
    "value": 0.01
  }
],
"log_url": "/usr/log/",
"config_name": "config123",
"app_url": "/usr/app/",
"create_time": 1559045426000,
"dataset_id": "38277e62-9e59-48f4-8d89-c8cf41622c24",
"volumes": [
  {
    "nfs": {
      "id": "43b37236-9afa-4855-8174-32254b9562e7",
      "src_path": "192.168.8.150:/",
      "dest_path": "/home/work/nas",
      "read_only": false
    }
  },
  {
    "host_path": {
      "src_path": "/root/work",
      "dest_path": "/home/mind",
      "read_only": false
    }
  }
],
"cpu": "64",
"model_id": 4,
"boot_file_url": "/usr/app/boot.py",
"dataset_name": "dataset-test",
"pool_id": "pool9928813f",
"config_desc": "This is a config desc test",
"gpu_num": 1,
"data_source": [
  {
    "type": "obs",
    "data_url": "/test/minst/data/"
  }
],
"pool_name": "pnt1",
"dataset_version_name": "dataset-version-test",
"core": "8",
"engine_type": 1,
"engine_id": 3,
"engine_version": "TF-1.8.0-python2.7",
"data_url": "/test/minst/data/"
}

```

- Failed response

```

{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}

```

Status Code

For details about the status code, see [Table 15-1](#).

16.3.3 Visualization Jobs

16.3.3.1 Creating a Visualization Job

Function

This API is used to create a visualization job.

Calling this API is an asynchronous operation. The job status can be obtained by calling the APIs described in [Querying a Visualization Job List](#) and [Querying the Details About a Visualization Job](#).

URI

POST /v1/{project_id}/visualization-jobs

[Table 16-674](#) describes the required parameters.

Table 16-674 Parameters

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

Request Body

[Table 16-675](#) describes the request parameters.

Table 16-675 Parameters

Parameter	Mandatory	Type	Description
job_name	Yes	String	Name of a visualization job. The value must contain 1 to 20 characters consisting of only digits, letters, underscores (_), and hyphens (-).
job_desc	No	String	Description of a visualization job. The value must contain 0 to 256 characters. By default, this parameter is left blank.
train_url	Yes	String	OBS path

Parameter	Mandatory	Type	Description
job_type	No	String	Type of a visualization job. You can create visualization jobs of TensorBoard and MindInsight types. The default type is TensorBoard.
flavor	No	Object	Specifications when a visualization job is created. You do not need to set this parameter. For details, see Table 16-676 .
schedule	No	Object	Auto stop setting. For details, see Table 16-677 .

Table 16-676 flavor parameters

Parameter	Mandatory	Type	Description
code	Yes	String	Resource specification code of a visualization job. You can obtain the code through the flavor parameter.

Table 16-677 schedule parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Set this parameter to stop .
time_unit	Yes	String	Unit of auto stop duration. The value is HOURS .
duration	Yes	Int	Auto stop duration. The value ranges from 0 to 24.

Response Body

[Table 16-678](#) describes the response parameters.

Table 16-678 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful

Parameter	Type	Description
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
job_id	Long	ID of a visualization job
job_name	String	Name of a visualization job
status	Integer	Status of a visualization job. For details about the job statuses, see Job Statuses .
create_time	Long	Time when a visualization job is created, in timestamp format
service_url	String	Endpoint of a visualization job

Sample Request

The following shows how to create a visualization job whose name is **visualization-job**, description is **this is a visualization job**, and OBS path is **/obs/name/**.

```
POST https://endpoint/v1/{project_id}/visualization-jobs
{
  "job_name": "visualization-job",
  "job_desc": "this is a visualization job",
  "train_url": "/obs/name/",
  "job_type": "mindinsight",
  "schedule": [
    {
      "type": "stop",
      "time_unit": "HOURS",
      "duration": 1
    }
  ]
}
```

Sample Response

- Successful response

```
{
  "is_success": true,
  "job_id": "10",
  "job_name": "visualization-job",
  "status": "1",
  "create_time": "1524189990635"
}
```

- Failed response

```
{
  "is_success": false,
  "error_message": "error message",
}
```

```

    "error_code": "ModelArts.0103"
  }

```

Status Code

For details about the status code, see [Table 15-1](#).

16.3.3.2 Querying a Visualization Job List

Function

This API is used to obtain the visualization jobs that meet the search criteria.

URI

GET /v1/{project_id}/visualization-jobs

[Table 16-679](#) describes the required parameters.

Table 16-679 Parameters

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

Table 16-680 Query parameters

Parameter	Mandatory	Type	Description
status	No	String	Job status. By default, all job statuses are returned. For example, to obtain failed jobs, set the value of status to 3 , 5 , 6 , or 13 . For details about the job statuses, see Job Statuses .
per_page	No	Integer	Number of jobs displayed on each page. The value range is [1, 1000]. Default value: 10
page	No	Integer	Index of the page to be queried. Default value: 1
sortBy	No	String	Sorting mode of the query. The value can be job_id , job_name , job_desc , create_time , or status . Default value: job_id

Parameter	Mandatory	Type	Description
order	No	String	Sorting order. Options: <ul style="list-style-type: none"> • asc: ascending order. It is the default value. • desc: descending order
search_content	No	String	Search content, for example, a visualization job name. The value must contain 0 to 64 characters. By default, this parameter is left blank.
workspace_id	No	String	Workspace where a job resides. Default value: 0

Request Body

None

Response Body

[Table 16-681](#) describes the response parameters.

Table 16-681 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
job_total_count	Integer	Total number of the queried visualization jobs
job_count_limit	Integer	Number of visualization jobs that can be created
jobs	jobs array	Visualization job attributes. For details, see Table 16-682 .
quotas	Integer	Maximum number of training jobs

Table 16-682 jobs parameters

Parameter	Type	Description
job_name	String	Name of a visualization job
status	Integer	Status of a visualization job. For details about the job statuses, see Job Statuses .
create_time	Long	Time when a visualization job is created
duration	Long	Visualization job running duration, in milliseconds
job_desc	String	Description of a visualization job
service_url	String	Endpoint of a visualization job
train_url	String	Path for storing visualization job logs
job_id	Long	ID of a visualization job
resource_id	String	Charged resource ID of a visualization job

Sample Request

The following shows how to obtain the top 10 visualization jobs that are being deployed on the first page in ascending order.

```
GET https://endpoint/v1/{project_id}/visualization-jobs ?
status=7&per_page=10&page=1&sortBy=status&order=asc& search_content=job_name
```

Sample Response

- Successful response

```
{
  "quotas": 100,
  "is_success": true,
  "job_total_count": 1,
  "job_count_limit": 999,
  "jobs": [
    {
      "job_id": 1,
      "job_name": "visualization-job",
      "status": 1,
      "create_time": 15099239923,
      "resource_id": "4787c885-e18d-4ef1-aa12-c4ed0c364b27",
      "duration": 1502323,
      "job_desc": "This is a visualization job",
      "service_url": "https://console.huaweicloud.com/modelarts/tensoarbod/xxxx/111",
      "train_url": "/obs/name/"
    }
  ]
}
```

- Failed response

```
{
  "is_success": false,
  "error_message": "error message",
  "error_code": "ModelArts.0103"
}
```

Status Code

For details about the status code, see [Table 15-1](#).

16.3.3.3 Querying the Details About a Visualization Job

Function

This API is used to obtain the details about a specified visualization job based on the job name.

URI

GET /v1/{project_id}/visualization-jobs/{job_id}

[Table 16-683](#) describes the required parameters.

Table 16-683 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
job_id	Yes	String	ID of a visualization job

Request Body

None

Response Body

[Table 16-684](#) describes the response parameters.

Table 16-684 Parameters

Parameter	Type	Description
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
job_name	String	Name of a visualization job
service_url	String	Endpoint of a visualization job

Parameter	Type	Description
resource_id	String	Charged resource ID of a visualization job
job_id	Long	ID of a visualization job
job_desc	String	Description of a visualization job
duration	Long	Visualization job running duration, in milliseconds
create_time	Long	Time when a visualization job is created, in timestamp format
train_url	String	OBS path of the visualization job output file
status	Int	Status of a visualization job. For details about the job statuses, see Job Statuses .

Sample Request

The following shows how to obtain the visualization job whose ID is 10.

```
GET https://endpoint/v1/{project_id}/visualization-jobs/10
```

Sample Response

- Successful response

```
{
  "duration": 33000,
  "service_url": "https://console.huaweicloud.com/modelarts2/tensorboard/04f679b17380d32a2f32c00335c4b5ba/197/",
  "job_name": "apiTest-11",
  "create_time": 1565149736000,
  "train_url": "/wph-test/zl-test/Flowers-Set/ApiTest/",
  "job_id": 197,
  "job_desc": "ModelArts API Dialtest",
  "resource_id": "e17dd874-b5e0-4e9b-aaf0-22b045ad8571",
  "status": 7
}
```

- Failed response

```
{
  "error_message": "The length of search content should be in [0,100]",
  "error_code": "ModelArts.0104"
}
```

Status Code

For details about the status code, see [Table 15-1](#).

16.3.3.4 Modifying the Description of a Visualization Job

Function

This API is used to modify the description of a visualization job.

URI

PUT /v1/{project_id}/visualization-jobs/{job_id}

[Table 16-685](#) describes the required parameters.

Table 16-685 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
job_id	Yes	String	ID of a visualization job

Request Body

[Table 16-686](#) describes the request parameters.

Table 16-686 Parameters

Parameter	Mandatory	Type	Description
job_desc	Yes	String	Description of a visualization job. The value must contain 0 to 256 characters.

Response Body

[Table 16-687](#) describes the response parameters.

Table 16-687 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.

Sample Request

The following shows how to modify the description of the visualization job whose ID is **10** to **This is a ModelArts job**.

```
PUT https://endpoint/v1/{project_id}/visualization-jobs/10
{
  "job_desc": "This is a ModelArts job"
}
```

Sample Response

- Successful response

```
{
  "is_success": true
}
```

- Failed response

```
{
  "is_success": false,
  "error_message": "Illegal name: %%123",
  "error_code": "ModelArts.0104"
}
```

Status Code

For details about the status code, see [Table 15-1](#).

16.3.3.5 Deleting a Visualization Job

Function

This API is used to delete a visualization job. Calling this API is an asynchronous operation. The job status can be obtained by calling the APIs described in [Querying a Visualization Job List](#) and [Querying the Details About a Visualization Job](#).

URI

DELETE /v1/{project_id}/visualization-jobs/{job_id}

[Table 16-688](#) describes the required parameters.

Table 16-688 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
job_id	Yes	String	ID of a visualization job

Request Body

None

Response Body

[Table 16-689](#) describes the response parameters.

Table 16-689 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.

Sample Request

The following shows how to delete the visualization job whose ID is 10.

```
DELETE https://endpoint/v1/{project_id}/visualization-jobs/10
```

Sample Response

- Successful response


```
{
  "is_success": true
}
```
- Failed response


```
{
  "is_success": false,
  "error_message": "This job can't be delete. job status: 9",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Table 15-1](#).

16.3.3.6 Stopping a Visualization Job

Function

This API is used to stop a visualization job. Calling this API is an asynchronous operation. The job status can be obtained by calling the APIs described in [Querying a Visualization Job List](#) and [Querying the Details About a Visualization Job](#).

URI

POST /v1/{project_id}/visualization-jobs/{job_id}/stop

[Table 16-690](#) describes the required parameters.

Table 16-690 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
job_id	Yes	String	ID of a visualization job

Request Body

None

Response Body

[Table 16-691](#) describes the response parameters.

Table 16-691 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.

Sample Request

The following shows how to stop the visualization job whose ID is 10.

```
POST https://endpoint/v1/{project_id}/visualization-jobs/10/stop
```

Sample Response

- Successful response

```
{
  "is_success": true
}
```

- Failed response

```
{
  "is_success": false,
  "error_message": "This job can't be stop. job status: 10",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Table 15-1](#).

16.3.3.7 Restarting a Visualization Job

Function

This API is used to restart a visualization job. Calling this API is an asynchronous operation. The job status can be obtained by calling the APIs described in [Querying a Visualization Job List](#) and [Querying the Details About a Visualization Job](#).

URI

POST /v1/{project_id}/visualization-jobs/{job_id}/restart

[Table 16-692](#) describes the required parameters.

Table 16-692 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain a project ID, see Obtaining a Project ID and Name .
job_id	Yes	String	ID of a visualization job

Request Body

None

Response Body

[Table 16-693](#) describes the response parameters.

Table 16-693 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful

Parameter	Type	Description
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.

Sample Request

The following shows how to restart the visualization job whose ID is 10.

```
POST https://endpoint/v1/{project_id}/visualization-jobs/10/restart
```

Sample Response

- Successful response


```
{
  "is_success": true
}
```
- Failed response


```
{
  "is_success": false,
  "error_message": "This job can't be resubmit. job status: 8",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Table 15-1](#).

16.3.4 Resource and Engine Specifications

16.3.4.1 Querying Job Resource Specifications

Function

This API is used to obtain the resource specifications of a specified job.

You must specify the resource specifications when creating a training job or an inference job.

URI

```
GET /v1/{project_id}/job/resource-specs
```

[Table 16-694](#) describes the required parameters.

Table 16-694 Parameters

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

Table 16-695 Parameters

Parameter	Mandatory	Type	Description
job_type	No	String	Job type. The value can be train or inference . This parameter is not required for querying the specifications of ExeML resources.
engine_id	No	Long	Engine ID of a job. Default value: 0 This parameter is not required for querying the specifications of ExeML resources.
project_type	No	Integer	Project type. Default value: 0 <ul style="list-style-type: none"> • 0: non-ExeML project • 1: ExeML job for image classification • 2: ExeML job for object detection • 3: ExeML job for predictive analytics

Request Body

None

Response Body

[Table 16-696](#) describes the response parameters.

Table 16-696 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.

Parameter	Type	Description
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
spec_total_count	Integer	Total number of job resource specifications
specs	specs array	List of resource specifications attributes. For details, see Table 16-697 .

Table 16-697 specs parameters

Parameter	Type	Description
spec_id	Long	ID of the resource specifications
core	String	Number of cores of the resource specifications
cpu	String	CPU memory of the resource specifications
gpu_num	Integer	Number of GPUs of the resource specifications
gpu_type	String	GPU type of the resource specifications
spec_code	String	Type of the resource specifications
max_num	Integer	Maximum number of nodes that can be selected
unit_num	Integer	Number of pricing units
storage	String	SSD size of a resource flavor
interface_type	Integer	Interface type
no_resource	Boolean	Whether the resources of the selected specifications are sufficient. True indicates that no resource is available.

Sample Request

The following shows how to obtain the resource specifications of a training job.

```
GET https://endpoint/v1/{project_id}/job/resource-specs?job_type=train
```

Sample Response

- Successful response

```
{
  "specs": [
    {
```

```

        "spec_id": 2,
        "core": "2",
        "cpu": "8",
        "gpu_num": 0,
        "gpu_type": "",
        "spec_code": "modelarts.vm.cpu.2u",
        "unit_num": 1,
        "max_num": 2,
        "storage": "",
        "interface_type": 1,
        "no_resource": false
    }
],
"is_success": true,
"spec_total_count": 1
}

```

- Failed response

```

{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}

```

Status Code

For details about the status code, see [Table 15-1](#).

16.3.4.2 Querying Job Engine Specifications

Function

This API is used to obtain the engine type and version of a specified job.

You must specify the engine specifications when creating a training job or an inference job.

URI

GET /v1/{project_id}/job/ai-engines

[Table 16-698](#) describes the required parameters.

Table 16-698 Parameters

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

Table 16-699 Parameters

Parameter	Mandatory	Type	Description
job_type	No	String	Job type. The value can be train or inference .

Request Body

None

Response Body

[Table 16-700](#) describes the response parameters.

Table 16-700 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
error_message	String	Error message of a failed API call. This parameter is not included when the API call succeeds.
error_code	String	Error code of a failed API call. For details, see Error Codes . This parameter is not included when the API call succeeds.
engines	engines array	List of engine specifications attributes. For details, see Table 16-701 .

Table 16-701 engines parameters

Parameter	Type	Description
engine_type	Integer	Engine type of a training job <ul style="list-style-type: none"> • 1: TensorFlow • 2: MXNet • 4: Caffe • 5: Spark_MLLib • 6: Scikit Learn • 9: XGBoost-Sklearn • 10: PyTorch • 13: Ascend-Powered-Engine • 17: MindSpore-GPU
engine_id	Long	ID of the engine selected for a training job
engine_name	String	Name of the engine selected for a training job
engine_version	String	Version of the engine selected for a training job

Sample Request

The following shows how to obtain the engine specifications of a training job.

```
GET https://endpoint/v1/{project_id}/job/ai-engines?job_type=train
```

Sample Response

- Successful response

```
{
  "is_success": true,
  "engines": [
    {
      "engine_type": 1,
      "engine_name": "TensorFlow",
      "engine_id": 1,
      "engine_version": "TF-1.4.0-python2.7"
    }
  ]
}
```

- Failed response

```
{
  "is_success": false,
  "error_message": "Error string",
  "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see [Table 15-1](#).

16.3.5 Job Statuses

[Table 16-702](#) describes the job statuses.

Table 16-702 Job statuses

Status Value	Description
0	JOBSTAT_UNKNOWN: Unknown status.
1	JOBSTAT_INIT: The job is being initialized.
2	JOBSTAT_IMAGE_CREATING: The job image is being created.
3	JOBSTAT_IMAGE_FAILED: Failed to create the job image.
4	JOBSTAT_SUBMIT_TRYING: The job is being submitted.
5	JOBSTAT_SUBMIT_FAILED: Failed to submit the job.
6	JOBSTAT_DELETE_FAILED: Failed to delete the job.
7	JOBSTAT_WAITING: The job is queuing.
8	JOBSTAT_RUNNING: The job is running.
9	JOBSTAT_KILLING: The job is being canceled.
10	JOBSTAT_COMPLETED: The job has been completed.
11	JOBSTAT_FAILED: Failed to run the job.
12	JOBSTAT_KILLED: Job canceled successfully.
13	JOBSTAT_CANCELED: Job canceled.
14	JOBSTAT_LOST: Job lost.
15	JOBSTAT_SCALING: The job is being scaled.
16	JOBSTAT_SUBMIT_MODEL_FAILED: Failed to submit the model.
17	JOBSTAT_DEPLOY_SERVICE_FAILED: Failed to deploy the service.
18	JOBSTAT_CHECK_INIT: The job review is being initialized.
19	JOBSTAT_CHECK_RUNNING: The job is being reviewed.
20	JOBSTAT_CHECK_RUNNING_COMPLETED: The approval job is completed.
21	JOBSTAT_CHECK_FAILED: Failed to review the job.

17 Change History

Released On	Description
2024-01-03	Added the app authentication management API .
2023-12-14	<ul style="list-style-type: none"> Added app authentication management. Added the DevServer management API.
2023-09-19	Added <i>Historical APIs</i> . "Data Management (Old Version)", "DevEnviron (Old Version)", and "Training Management (Old Version)" were moved to "Historical APIs".
2023-03-09	Added the resource management API .
2023-02-02	Added the following DevEnviron APIs: <ul style="list-style-type: none"> Saving a Running Instance as a Container Image Obtaining Flavors Available for a Notebook Instance Obtaining Supported Images Registering a Custom Image Obtaining User Image Groups Obtaining Details About an Image Deleting an Image
2022-11-24	Updated error codes: Error Codes
2022-08-03	Optimized description about API calling: Authentication
2022-01-10	Added Training Management (New Version) .
2021-08-30	Added the following API use cases: Managing ModelArts Authorization
2021-07-09	Added operations for obtaining a username and ID: Obtaining a Username and ID

Released On	Description
2021-05-31	Updated error codes: Error Codes
2021-02-25	Added authorization management APIs: Authorization Management
2019-10-16	Added the following content: <ul style="list-style-type: none"> • Querying Training Job Logs • Obtaining Service Event Logs
2019-08-20	This is the second official release. Modified the following content: <ul style="list-style-type: none"> • Modified the parameters in Training Management.
2019-05-09	This is the first official release.