ModelArts

API Reference

Issue 01

Date 2026-01-30



HUAWEI CLOUD COMPUTING TECHNOLOGIES CO., LTD.

Copyright © Huawei Cloud Computing Technologies Co., Ltd. 2026. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Cloud Computing Technologies Co., Ltd.

Trademarks and Permissions


and other Huawei trademarks are the property of Huawei Technologies Co., Ltd.
All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei Cloud and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Huawei Cloud Computing Technologies Co., Ltd.

Address: Huawei Cloud Data Center Jiaoxinggong Road
Qianzhong Avenue
Gui'an New District
Gui Zhou 550029
People's Republic of China

Website: https://www.huaweicloud.com/intl/en-us/

Contents

1 Before You Start 1
2 API OVERVIEW 3
3 Calling APIs 44
3.1 Making an API Request 44
3.2 Authentication 48
3.3 Response 50
4 Development Environment Management 52
4.1 Creating a Notebook Instance 52
4.2 Querying Notebook Instances 80
4.3 Querying All Notebook Instances 100
4.4 Querying Details of a Notebook Instance 120
4.5 Updating a Notebook Instance 137
4.6 Deleting a Notebook Instance 161
4.7 Saving a Running Instance as a Container Image 178
4.8 Querying the List of Valid Specifications Supported by Notebook Instances 185
4.9 Querying the List of Switchable Specifications Supported by Notebook Instances 191
4.10 Querying the Available Duration of a Running Notebook Instance 197
4.11 Prolonging a Notebook Instance 200
4.12 Starting a Notebook Instance 205
4.13 Stopping a Notebook Instance 222
4.14 Obtaining Details About All Notebook Resource Pool Instances 238
4.15 Obtaining Details About a Notebook Resource Pool 247
4.16 Querying the Switch and Quota of a Specified Feature of the Current User 254
4.17 Obtaining the Notebook Instances with OBS Storage Mounted 257
4.18 OBS Storage Mounting 261
4.19 Obtaining Details About a Notebook Instance with OBS Storage Mounted 265
4.20 Unmounting OBS Storage from a Notebook Instance 268
4.21 Querying Supported Images 271
4.22 Registering a Custom Image 281
4.23 Querying the User Image List 289
4.24 Obtaining Details of an Image 293
4.25 Deleting an Image 299

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

4.26 Synchronizing the Image Status 305
5 Training Management 312
5.1 Creating an Algorithm 312
5.2 Querying the Algorithm List 336
5.3 Querying Algorithm Details 350
5.4 Modifying an Algorithm 362
5.5 Deleting an Algorithm 386
5.6 Creating a Training Job 388
5.7 Querying the Details About a Training Job 460
5.8 Modifying the Description of a Training Job 494
5.9 Deleting a Training Job 496
5.10 Terminating a Training Job 498
5.11 Querying the Logs of a Specified Task in a Given Training Job (Preview) 531
5.12 Querying the Logs of a Specified Task in a Training Job (OBS Link) 535
5.13 Querying the Running Metrics of a Specified Task in a Training Job 538
5.14 Querying a Training Job List 541
5.15 Obtaining the Events of a Training Job 578
5.16 Obtaining the General Specifications Supported by a Training Job 583
5.17 Obtaining the Preset AI Frameworks Supported by a Training Job 589
6 Model Management 594
6.1 Obtaining the Model Runtime 594
6.2 Querying the AI Application List 600
6.3 Creating an AI Application 608
6.4 Obtaining Details About an AI Application 621
6.5 Deleting an AI application 629
7 App Authentication Management 633
7.1 Obtaining the App List 633
7.2 Creating Apps 638
7.3 Obtaining App Details 642
7.4 Deleting an App 646
7.5 Adding an App Code 648
7.6 Resetting an App Code 653
7.7 Deleting an App Code 657
7.8 Resetting an AppSecret 661
7.9 Obtaining the List of APIs Bound to an App 665
7.10 Registering an API and Authorizing the API to an App 669
7.11 Deleting an API 675
7.12 Authorizing an API to an App 678
7.13 Updating API Authorization 683
7.14 Canceling the Authorization of an API to an App 687
7.15 Obtaining API Authorization Relationships 691

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

7.16 Creates an API....696
7.17 API query....700
7.18 Querying APIs and Apps....704
7.19 Check whether the app exists....708
8 Service Management....712
8.1 Updating the Service Through the Patch Operation....712
8.2 Obtaining Service Monitoring....716
8.3 Obtaining Services....719
8.4 Deploying Services....727
8.5 Obtaining Supported Service Deployment Specifications....748
8.6 Obtaining Service Details....754
8.7 Updating Service Configurations....769
8.8 Deleting a Service....784
8.9 Updating a Single Property of a Model Service....786
8.10 Obtaining Service Event Logs....789
8.11 Obtaining Service Update Logs....793
8.12 Adding a Resource Tag....800
8.13 Deleting Resource Tags....804
8.14 Obtaining Inference Service Tags....808
8.15 Obtaining an Inference VPC Access Channel....812
9 Resource Management....816
9.1 Querying OS Configuration Parameters....816
9.2 Querying a Plug-in Template....818
9.3 Obtaining Nodes in a Resource Pool....822
9.4 Deleting nodes in batches....835
9.5 Querying a Trace List....837
9.6 Creating Network Resources....844
9.7 Obtaining Network Resources....853
9.8 Obtaining a Network Resource....861
9.9 Deleting a Network Resource....869
9.10 Updating a Network Resource....876
9.11 Querying the Real-Time Resource Usage....886
9.12 Creating Resource Pools....890
9.13 Obtaining Resource Pools....917
9.14 Obtaining a Resource Pool....936
9.15 Deleting a Resource Pool....955
9.16 Updating a Resource Pool....973
9.17 Monitoring a Resource Pool....996
9.18 Resource Pool Statistics....1007
9.19 Obtaining Resource Specifications....1011
9.20 Obtain Jobs in a Resource Pool....1019
9.21 Querying dedicated resource pool Job Statistics....1028

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10 Lite Server Management..... 1033
10.1 Querying All Lite Server Instances of a User..... 1033
10.2 Creating a Lite Server..... 1044
10.3 Querying Lite Server Instance Details..... 1063
10.4 Changing the Lite Server Instance Name..... 1073
10.5 Stopping a Lite Server Instance..... 1083
10.6 Starting a Lite Server Instance..... 1093
10.7 Deleting a Lite Server Instance..... 1104
10.8 Creating a Hyper Cluster..... 1114
10.9 Obtaining the Hyper Cluster Details List..... 1117
10.10 Querying Hyper Cluster Instance Details..... 1120
10.11 Deleting a Hyper Cluster Instance..... 1123
10.12 Synchronizing the Status of All Lite Server Instances of a User in Real Time..... 1125
10.13 Creating a Lite Server Supernode Tag..... 1137
10.14 Deleting a Lite Server Supernode Tag..... 1143
10.15 Querying Lite Server Supernode Tags..... 1148
10.16 Reinstalling the OS Image of a Lite Server..... 1152
10.17 Changing the OS Image of a Lite Server..... 1165
10.18 Changing the OS Image of a Lite Server Supernode..... 1179
10.19 Obtaining Details About All Supernode Instances of a User..... 1195
10.20 Obtaining Details About a Specified Supernode Instance..... 1210
10.21 Deleting a Lite Server Supernode Instance..... 1224
10.22 Restarting a Lite Server Instance..... 1236
10.23 Starting a Lite Server Supernode..... 1248
10.24 Stopping a Lite Server Supernode..... 1260
10.25 Mounting a Disk to a Lite Server..... 1272
10.26 Unmounting a Disk from a Lite Server..... 1275
10.27 Binding an EIP to a Lite Server..... 1278
10.28 Query Bound EIPs..... 1280
10.29 Querying the Specification List..... 1283
10.30 Obtaining the Resource Flavor List..... 1288
10.31 Creating a RoCE Network..... 1294
10.32 Querying the Lite Server List of a Tenant..... 1297
10.33 Querying Lite Server Image Details..... 1307
10.34 Querying the Lite Server Image List..... 1309
10.35 Querying the HyperInstance List of a Tenant..... 1313
10.36 Scaling Out Lite Server Supernodes..... 1325
10.37 Scaling in Lite Server Supernodes..... 1340
10.38 Obtaining Operation Details..... 1351
10.39 Querying the Supported Lite Server Scaling Specifications and Capacity Calculation..... 1354
10.40 Querying the Logical Capacity Calculation Result of the hyperinstance-clusters Supernode..... 1357
10.41 Querying the Tor Information of an Instance..... 1360

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.42 Performing Operations on Lite Server Instances in Batches....1363
10.43 Querying Lite Server Job Details....1379
10.44 Querying the Lite Server Job List....1383
10.45 Deleting Lite Server Jobs in Batches....1387
10.46 Creating a Lite Server Task....1390
10.47 Obtaining the Lite Server Job Template List....1394
10.48 Obtaining Lite Server Job Template Details....1398
10.49 Obtaining the Lite Server Plug-in List....1402
10.50 Obtaining Software Information....1405

11 Authorization Management....1409
11.1 Viewing an Authorization List....1409
11.2 Configuring Authorization....1413
11.3 Deleting Authorization....1417
11.4 Creating a ModelArts Agency....1419

12 Workspace Management....1423
12.1 Querying Details About a Workspace....1423
12.2 Modifying a Workspace....1428
12.3 Deleting a Workspace....1432
12.4 Querying a Workspace Quota....1435
12.5 Modifying a Workspace Quota....1439
12.6 Querying a Workspace List....1443
12.7 Creating a Workspace....1451
12.8 Querying the Authorization Mode....1461
12.9 Updating the Authorization Mode....1463
12.10 Authenticating Whether the Current Workspace Can Be Used....1465
12.11 Querying the User Role Information....1470
12.12 Obtaining the User List....1472

13 Quota Management....1488
13.1 Obtaining OS Quotas....1488

14 Resource Tag Management....1492
14.1 Obtaining All Tags of Resource Pools....1492
14.2 Obtaining Tags of a Resource Pool....1495

15 Node Pool Management....1499
15.1 Obtaining Node Pools....1499
15.2 Creating a Node Pool....1511
15.3 Obtaining Details About a Specified Node Pool....1535
15.4 Updating a Node Pool....1547
15.5 Deleting a Node Pool....1570
15.6 Obtaining Nodes in a Node Pool....1582

16 Order Management....1595

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

16.1 Querying Order Details ... 1595
17 Plugin Management ... 1601
17.1 Creating a Plugin ... 1601
17.2 Querying the Plugin List ... 1608
18 Task Management ... 1614
18.1 Querying Tasks ... 1614
19 DevServer Management ... 1619
19.1 Obtaining Lite Server Service Details ... 1619
20 Node configuration template ... 1623
20.1 Obtaining a Node Configuration Template ... 1623
21 Resource Pool Management ... 1628
21.1 Obtaining Custom Node Configurations of a Resource Pool ... 1628
22 Node Management ... 1632
22.1 Batch Updating Nodes ... 1632
22.2 Locking Node Functions in Batches ... 1636
22.3 Unlocking Node Functions in Batches ... 1640
22.4 Resetting Nodes ... 1643
22.5 Changing the Node Specifications ... 1647
22.6 Migrating Nodes in Batches ... 1651
22.7 Binding Nodes to a Logical Subpool in Batches ... 1661
23 Plugin Template Management ... 1664
23.1 Query Plugin Templates ... 1664
24 Scheduled Events ... 1677
24.1 Authorizing Scheduled Events ... 1677
24.2 Obtaining the Scheduled Event List ... 1683
25 Application Authentication Management ... 1689
25.1 Querying the API Authentication Information of an Application ... 1689
26 Use Cases ... 1693
26.1 Creating a Development Environment Instance ... 1693
26.2 Using PyTorch to Create a Training Job (New-Version Training) ... 1713
26.3 Managing ModelArts Authorization ... 1729
27 Permissions Policies and Supported Actions ... 1733
27.1 Introduction ... 1733
27.2 Workflow Permissions ... 1734
27.3 Data Management Permissions ... 1735
27.4 DevEnviron Permissions ... 1753
27.5 Training Job Permissions ... 1760
27.6 Model Management Permissions ... 1762

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

27.7 Service Management Permissions 1763
27.8 Resource Pool Management Permissions 1764
27.9 Granting Management Permissions 1767
28 Appendix 1769
28.1 Status Code 1769
28.2 Error Codes 1773
28.3 Obtaining a Project ID and Name 1879
28.4 Obtaining an Account Name and ID 1880
28.5 Obtaining a Username and ID 1880
29 Historical APIs 1882
29.1 Data Management (Old Version) 1882
29.1.1 Querying the Dataset List 1882
29.1.2 Creating a Dataset 1903
29.1.3 Querying Details About a Dataset 1917
29.1.4 Modifying a Dataset 1934
29.1.5 Deleting a Dataset 1939
29.1.6 Obtaining Dataset Statistics 1940
29.1.7 Querying the Monitoring Data of a Dataset 1946
29.1.8 Querying the Dataset Version List 1948
29.1.9 Creating a Dataset Labeling Version 1959
29.1.10 Querying Details About a Dataset Version 1962
29.1.11 Deleting a Dataset Labeling Version 1970
29.1.12 Obtaining a Sample List 1972
29.1.13 Adding Samples in Batches 1988
29.1.14 Deleting Samples in Batches 2007
29.1.15 Obtaining Details About a Sample 2009
29.1.16 Obtaining Sample Search Condition 2024
29.1.17 Obtaining a Sample List of a Team Labeling Task by Page 2028
29.1.18 Obtaining Details About a Team Labeling Sample 2043
29.1.19 Querying the Dataset Label List 2057
29.1.20 Creating a Dataset Label 2061
29.1.21 Modifying Labels in Batches 2066
29.1.22 Deleting Labels in Batches 2071
29.1.23 Updating a Label by Label Names 2076
29.1.24 Deleting a Label and the Files that Only Contain the Label 2079
29.1.25 Updating Sample Labels in Batches 2082
29.1.26 Querying the Team Labeling Task List of a Dataset 2098
29.1.27 Creating a Team Labeling Task 2111
29.1.28 Querying Details About a Team Labeling Task 2115
29.1.29 Starting a Team Labeling Task 2130
29.1.30 Updating a Team Labeling Task 2133
29.1.31 Deleting a Team Labeling Task 2137

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.1.32 Creating a Team Labeling Acceptance Task 2138
29.1.33 Querying the Report of a Team Labeling Acceptance Task 2140
29.1.34 Updating Status of a Team Labeling Acceptance Task 2143
29.1.35 Querying Details About Team Labeling Task Statistics 2156
29.1.36 Querying Details About the Progress of a Team Labeling Task Member 2163
29.1.37 Querying the Team Labeling Task List by a Team Member 2165
29.1.38 Submitting Sample Review Comments of an Acceptance Task 2169
29.1.39 Reviewing Team Labeling Results 2172
29.1.40 Updating Labels of Team Labeling Samples in Batches 2174
29.1.41 Querying the Labeling Team List 2190
29.1.42 Creating a Labeling Team 2192
29.1.43 Querying Details About a Labeling Team 2194
29.1.44 Updating a Labeling Team 2196
29.1.45 Deleting a Labeling Team 2198
29.1.46 Sending an Email to a Labeling Team Member 2200
29.1.47 Querying the List of All Labeling Team Members 2202
29.1.48 Querying the List of Labeling Team Members 2205
29.1.49 Creating a Labeling Team Member 2208
29.1.50 Deleting Labeling Team Members in Batches 2210
29.1.51 Querying Details About Labeling Team Members 2212
29.1.52 Updating a Labeling Team Member 2214
29.1.53 Deleting a Labeling Team Member 2216
29.1.54 Querying the Dataset Import Task List 2217
29.1.55 Creating an Import Task 2223
29.1.56 Querying Details About a Dataset Import Task 2232
29.1.57 Querying the Dataset Export Task List 2237
29.1.58 Creating a Dataset Export Task 2246
29.1.59 Querying the Status of a Dataset Export Task 2260
29.1.60 Synchronizing a Dataset 2267
29.1.61 Querying the Status of a Dataset Synchronization Task 2268
29.1.62 Obtaining an Auto Labeling Sample List 2270
29.1.63 Querying Details About an Auto Labeling Sample 2284
29.1.64 Obtaining an Auto Labeling Task List by Page 2297
29.1.65 Starting Intelligent Tasks 2321
29.1.66 Obtaining Details About an Auto Labeling Task 2346
29.1.67 Stopping an Intelligent Task 2368
29.1.68 Querying the List of a Processing Task 2369
29.1.69 Creating a Processing Task 2377
29.1.70 Querying Details About a Processing Task 2385
29.1.71 Updating a Processing Task 2390
29.1.72 Deleting a Processing Task 2391
29.2 DevEnviron (Old Version) 2392

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.2.1 Creating a Development Environment Instance....2393
29.2.2 Obtaining Development Environment Instances....2408
29.2.3 Obtaining Details About a Development Environment Instance....2420
29.2.4 Modifying the Description of a Development Environment Instance....2431
29.2.5 Deleting a Development Environment Instance....2443
29.2.6 Managing a Development Environment Instance....2444
29.3 Training Management (Old Version)....2446
29.3.1 Training Jobs....2446
29.3.1.1 Creating a Training Job....2446
29.3.1.2 Querying a Training Job List....2454
29.3.1.3 Querying the Details About a Training Job Version....2457
29.3.1.4 Deleting a Version of a Training Job....2465
29.3.1.5 Obtaining Training Job Versions....2466
29.3.1.6 Creating a Version of a Training Job....2474
29.3.1.7 Stopping a Training Job....2480
29.3.1.8 Modifying the Description of a Training Job....2481
29.3.1.9 Deleting a Training Job....2483
29.3.1.10 Obtaining the Name of a Training Job Log File....2484
29.3.1.11 Querying a Built-in Algorithm....2486
29.3.1.12 Querying Training Job Logs....2490
29.3.2 Training Job Parameter Configuration....2492
29.3.2.1 Creating a Training Job Configuration....2492
29.3.2.2 Querying a List of Training Job Configurations....2496
29.3.2.3 Modifying a Training Job Configuration....2499
29.3.2.4 Deleting a Training Job Configuration....2504
29.3.2.5 Querying the Details About a Training Job Configuration....2505
29.3.3 Visualization Jobs....2511
29.3.3.1 Creating a Visualization Job....2511
29.3.3.2 Querying a Visualization Job List....2514
29.3.3.3 Querying the Details About a Visualization Job....2517
29.3.3.4 Modifying the Description of a Visualization Job....2518
29.3.3.5 Deleting a Visualization Job....2520
29.3.3.6 Stopping a Visualization Job....2521
29.3.3.7 Restarting a Visualization Job....2523
29.3.4 Resource and Engine Specifications....2524
29.3.4.1 Querying Job Resource Specifications....2524
29.3.4.2 Querying Job Engine Specifications....2527
29.3.5 Job Statuses....2530

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

1 Before You Start

Before calling a ModelArts API, ensure that you have fully understood the concepts related to ModelArts. For details, see the **Service Overview**.

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**.

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**.

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.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- Region

  A region is a geographic area where cloud resources are deployed. Availability zones (AZs) in the same region can communicate with each other over an intranet, while AZs in different regions are isolated from each other. Deploying cloud resources in different regions can better suit certain user requirements or comply with local laws or regulations.

- AZ

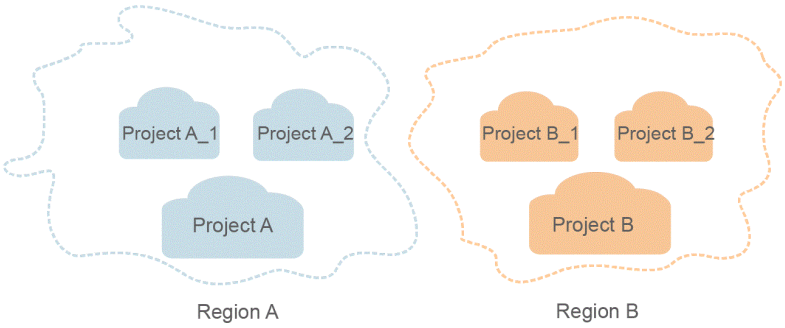
  An AZ contains one or more physical data centers. Each AZ has independent cooling, fire extinguishing, moisture-proof, and electricity facilities. An AZ's computing, network, storage, and other resources are logically divided into multiple clusters. AZs within a region are interconnected using high-speed 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. If you need more refined access control, create subprojects under a default project and create resources in subprojects. Then you can assign users the permissions required to access only the resources in the specific subprojects.

  To view a project ID, go to the **My Credentials** page.

  Figure 1-1 Project isolation model



 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

2 API OVERVIEW

Notebook Instance Management

Table 2-1 Notebook Instance Management

API	Description
Querying Notebook Instances	This API is used to obtain information about notebook instances that meet specific conditions.
Creating a Notebook Instance	This API is used to create a notebook instance based on specified parameters.
Querying All Notebook Instances	This API is used to obtain information about all created notebook instances.
Querying Details of a Notebook Instance	This API is used to obtain the details of a specified notebook instance.
Updating a Notebook Instance	This API is used to modify the instance configurations, including its name, description, specifications, and image.
Deleting a Notebook Instance	This API is used to delete a created notebook instance and its related resources.
Saving a Running Instance as a Container Image	This API is used to save a running instance as a container image.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Querying the List of Valid Specifications Supported by Notebook Instances	This API is used to obtain the available specifications supported by notebook instances. This API applies to the following scenario: When you want to know the configuration options supported by a notebook instance, you can use this API to query the list of available specifications. Before using this API, ensure that you have logged in to the system and have the permission to access the target notebook instance. After this API is called, the system returns the valid specifications supported by the notebook instance. For example, the memory and CPU. If you do not have the permission to access the specified notebook instance or the notebook instance is not running, the API will return an error message.
Querying the List of Switchable Specifications Supported by Notebook Instances	This API is used to obtain the available specifications that can be switched during notebook instance creation.
Querying the Available Duration of a Running Notebook Instance	This API is used to obtain the available duration of a running notebook instance.
Prolonging a Notebook Instance	This API is used to prolong the running time of a running notebook instance. This API applies to the following scenarios: When you need to prolong the running time of a notebook instance to complete long-time tasks, you can call this API to do so. Before using this API, ensure that you have logged in to the system and have the permission to perform operations on the target notebook instance. In addition, the notebook instance must be running. After this API is called, the system prolongs the running time of the specified notebook instance, so that you can continue to use it. If you do not have the permission to perform operations on the specified notebook instance or the notebook instance is not running, the API will return an error message.
Starting a Notebook Instance	This API is used to start a created notebook instance.
Stopping a Notebook Instance	This API is used to stop a notebook instance that is running.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Obtaining Details About All Notebook Resource Pool Instances	This API is used to obtain details about all notebook resource pool instances associated with a user. This API is used when you need to select a resource pool when creating a notebook instance. Before using this API, ensure that you have registered and logged in to the system and have the permission to view resource pool instances. After the API is called, the API returns a list of detailed information about all resource pool instances, including the instance name, status, and node specifications. If you have not logged in to the system, do not have the required permission to access the resource pool, or an internal error occurs in the system, the API returns an error message, for example, unauthorized access, service unavailable, or internal error.
Obtaining Details About a Notebook Resource Pool	This API is used to obtain details about a notebook resource pool. This API is used when you need to query details about a specified cluster when creating a notebook instance job. Before using this API, ensure that the cluster has been managed and you have the required permission. After this API is called, the system returns the instance ID, name, flavor, instance status, and URL for accessing the cluster. If the cluster does not exist, is not managed, or you do not have the access permission, the API will return an error message.
Querying the Switch and Quota of a Specified Feature of the Current User	This API is used to query the switch status and quota information of a specified feature of the current user. This API is used when you need to know whether a specific feature is enabled, check the quota limit, or monitor the used resources. Before using this API, ensure that you have logged in and have the query permission, and the specified feature must exist. After this API is called, the system returns the details, such as whether the feature is enabled, total quota, and used resources. If you do not have the required permission, the feature does not exist, or the system is abnormal, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

OBS Storage Mounting

Table 2-2 OBS Storage Mounting

API	Description
Obtaining the Notebook Instances with OBS Storage Mounted	This API is used to obtain the OBS parallel file system that can be mounted to a running notebook instance.
OBS Storage Mounting	This API is used to mount an OBS parallel file system to a specified file directory of a running notebook instance.
Obtaining Details About a Notebook Instance with OBS Storage Mounted	This API is used to obtain the details of the OBS parallel file system that has been mounted to a running notebook instance.
Unmounting OBS Storage from a Notebook Instance	This API is used to unmount an OBS parallel file system from a running notebook instance.

Image Management

Table 2-3 Image Management

API	Description
Querying Supported Images	This API is used to query all images by page based on specified conditions.
Registering a Custom Image	This API is used to register a custom image with ModelArts image management.
Querying the User Image List	This API is used to obtain the overview of user image information. Image names are used for aggregation.
Obtaining Details of an Image	This API is used to query image details.
Deleting an Image	This API is used to delete an image object. For a private image, you can also delete its SWR image content using parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Synchronizing the Image Status	This API is used to correct the abnormal image status. This API is used when you need to synchronize the latest image status when the image status is abnormal due to misoperations, network problems, or system faults. Before using this API, ensure that the image exists and you have the required permission. After the synchronization, the image status is updated to the latest correct status, and related resources and configurations are synchronized. If the image does not exist, you do not have the operation permission, or an error occurs during the synchronization, the API will return an error message.

Algorithm Management

Table 2-4 Algorithm Management

API	Description
Creating an Algorithm	This API is used to create an algorithm on ModelArts.
Querying the Algorithm List	This API is used to obtain the list of all algorithms on ModelArts.
Querying Algorithm Details	This API is used to obtain the details of a specified algorithm on ModelArts.
Modifying an Algorithm	This API is used to modify the information of an existing algorithm.
Deleting an Algorithm	This API is used to remove a registered algorithm from ModelArts.

Training Job Management

Table 2-5 Training Job Management

API	Description
Creating a Training Job	This API is used to create a training job on ModelArts.
Querying the Details About a Training Job	This API is used to query the details about a training job on ModelArts.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Modifying the Description of a Training Job	This API is used to modify the description of an existing training job.
Deleting a Training Job	This API is used to delete a training job from ModelArts.
Terminating a Training Job	This API is used to terminate a training job on ModelArts. Only jobs in the creating, awaiting, or running state can be terminated.
Querying the Logs of a Specified Task in a Given Training Job (Preview)	This API is used to query the logs of a specified task in a given training job on ModelArts (preview).
Querying the Logs of a Specified Task in a Training Job (OBS Link)	This API is used to obtain the OBS link where the log files of a specified training job are stored.
Querying the Running Metrics of a Specified Task in a Training Job	This API is used to query the running metrics of a specified task in a training job on ModelArts.
Querying a Training Job List	This API is used to obtain the list of all training jobs on ModelArts.
Obtaining the Events of a Training Job	This API is used to obtain the events of a training job on ModelArts.

Resource and Engine Specifications

Table 2-6 Resource and Engine Specifications

API	Description
Obtaining the General Specifications Supported by a Training Job	This API is used to obtain the supported resource specifications of training jobs on ModelArts.
Obtaining the Preset AI Frameworks Supported by a Training Job	This API is used to query the list of preset AI frameworks supported by the current system.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Model Management

Table 2-7 Model Management

API	Description
Obtaining the Model Runtime	This API is used to obtain the AI engine and runtime of models.
Querying the AI Application List	This API is used to query the AI application list based on different search parameters.
Creating an AI Application	Import a meta model to create an AI application.
Obtaining Details About an AI Application	This API is used to query details about an AI application based on the AI application ID.
Deleting an AI application	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.

App Authentication Management

Table 2-8 App Authentication Management

API	Description
Obtaining the App List	This API is used to obtain the basic information about APIG apps. You can obtain only the information about the apps created by yourself.
Creating Apps	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.
Obtaining App Details	This API is used to obtain details about a specified app.
Deleting an App	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.
Adding an App Code	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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Resetting an App Code	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.
Deleting an App Code	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.
Resetting an AppSecret	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.
Obtaining the List of APIs Bound to an App	This API is used to obtain the list of APIs bound to an app.
Registering an API and Authorizing the API to an App	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.
Deleting an API	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.
Authorizing an API to an App	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.
Updating API Authorization	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.
Canceling the Authorization of an API to an App	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. Same as the URL: /v1/{project_id}/app-auth/{service_id}/apis/{api_id}/auths
Obtaining API Authorization Relationships	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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Creates an API.	An API is created, but the API is not authorized to the app.
API query	This API is used to query details about a specified API.
Querying APIs and Apps	This API is used to query information about APIs and apps authorized by a service.
Check whether the app exists.	Check whether the app exists.

Service Management

Table 2-9 Service Management

API	Description
Obtaining Service Monitoring	This API is used to obtain service monitoring information.
Obtaining Services	This API is used to obtain model services.
Deploying Services	This API is used to deploy a model as a service.
Obtaining Supported Service Deployment Specifications	This API is used to obtain supported service deployment specifications.
Obtaining Service Details	This API is used to obtain the details about a model service based on the service ID.
Updating Service Configurations	This API is used to update configurations of a model service. It can also be used to start or stop a service.
Updating the Service Through the Patch Operation	This API is used to update the service through the patch operation. For details about the patch format, see **json patch**.
Deleting a Service	This API is used to delete a model service. You can delete your own services only.
Updating a Single Property of a Model Service	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.
Obtaining Service Event Logs	This API is used to obtain service event logs, including service operation records, key actions during deployment, and deployment failure causes.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Obtaining Service Update Logs	This API is used to obtain the update logs of a real-time service.
Adding a Resource Tag	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.
Deleting Resource Tags	This API is used to delete tags of a real-time service. Tags can be deleted in batches.
Obtaining Inference Service Tags	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.
Obtaining an Inference VPC Access Channel	This API is used to obtain an inference VPC access channel.

Configuration Management

Table 2-10 Configuration Management

API	Description
Querying OS Configuration Parameters	This API is used to obtain the configuration parameters of ModelArts OS, such as network CIIDR and user resource quota. This API is used when you need to query the network configuration, resource allocation, or system management of ModelArts OS. Before using this API, ensure that you have the permission to access ModelArts OS and the service is running properly. After the query, the configuration parameters are returned for future resource planning and system optimization. If you do not have the required permission, the service is unavailable, or the request parameter is invalid, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Plug-in Template Management

Table 2-11 Plug-in Template Management

API	Description
Querying a Plug-in Template	This API is used to obtain details about a specified plug-in template. This API is used when you need to query the configuration, functions, or usage of a specific plug-in template. Before using this API, ensure that the plug-in template exists and you have the required permission. After the query, the details of the specified plug-in template are returned, including the configuration parameters and function description of the template, helping you develop and manage plug-ins. If the plug-in template does not exist or you do not have the access permission, the API will return an error message.

Node management

Table 2-12 Node management

API	Description
Obtaining Nodes in a Resource Pool	This API is used to obtain the node list of a specified resource pool. This API is used when you need to obtain the details about a resource pool, such as the node distribution, status, or resource usage. Before using this API, ensure that the resource pool has been created and is available, and you have the required permission. After the query, the system returns the detailed information about the nodes in the resource pool, including the node ID, status, and resource usage, helping you manage and optimize resources. If the resource pool does not exist, you do not have the permission to access the resource pool, or the request parameters are invalid, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Deleting nodes in batches	This API is used to delete nodes from a specified resource pool in batches. This API is used when you need to delete redundant nodes, re-allocate resources, or remove faulty nodes from a resource pool. Before using this API, ensure that the resource pool has been created and is available, you have the required permission, and at least one node is retained in the resource pool. After the deletion, the specified nodes are permanently removed, and the remaining nodes in the resource pool continue to work. If the resource pool does not exist, the node does not exist, you do not have the permission to perform the operation, or the number of nodes in the resource pool is insufficient, the API will return an error message.

Event management

Table 2-13 Event management

API	Description
Querying a Trace List	This API is used to obtain the event information recorded in the system. This API is used when you need to query the event records recorded in the system when monitoring the system status, locating faults, or auditing. Before using this API, ensure that you have the required permission and the event records exist in the system. After the query, the API returns the event list, including the event ID, type, time, and description. If you do not have the required permission, the event record does not exist, or the query parameter is incorrect, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Networking

Table 2-14 Networking

API	Description
Creating Network Resources	This API is used to create network resources in a system. This API is used when you need to create network resources, such as virtual networks, subnets, or routes, when you need to expand services, plan resources, or adjust the network architecture. Before using this API, ensure that you have the administrator permission and the system has sufficient resources to create network resources. After the creation, the network resources will be added to the system for future service configurations. If you do not have the required permission, the resources are insufficient, or the input parameter is incorrect, the API will return an error message.
Obtaining Network Resources	This API is used to obtain information about created network resources in the system. This API is used when you need to query the network resource list recorded in the system when monitoring network status, planning resources, locating network faults, or auditing. Before using this API, ensure that you have the required permission and the network resources exist in the system. After the query, the API returns the network resource list, including the resource ID, type, status, and creation time. If you do not have the required permission, the network resources do not exist in the system, or the query parameter is incorrect, the API will return an error message.
Obtaining a Network Resource	This API is used to obtain the details of a specified network resource. This API is used when you need to query details about a specified network resource, such as its configuration, status, or attributes. Before using this API, ensure that you have the required permission and the specified network resource exists in the system. After the query, the API returns the details of the specified network resource, including the resource ID, type, status, and configuration parameters. If the specified network resource does not exist, you do not have the operation permission, or the input parameters are incorrect, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Deleting a Network Resource	This API is used to remove specified network resources. This API is used when you need to delete a specified network resource when the network resource is no longer required, the configuration is incorrect, or resources need to be cleared. Before using this API, ensure that the network resource exists and you have the administrator permissions. After the deletion, the specified network resource is permanently removed, and related configurations and associations are cleared. If the specified network resource does not exist, you do not have the operation permission, or the resource is depended on by other resources, the API will return an error message.
Updating a Network Resource	This API is used to update the configuration information of a specified network resource. This API is used when you need to update the details of a specified network resource, such as adjusting attributes, fixing configuration errors, or optimizing resource settings. Before using this API, ensure that the network resource exists and you have the administrator permissions. After the update, the configuration information of the specified network resource is modified, and the latest resource status and attributes are displayed. If the specified network resource does not exist, you do not have the operation permission, or the input parameters are incorrect, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Resource indicators

Table 2-15 Resource indicators

API	Description
Querying the Real-Time Resource Usage	This API is used to obtain the real-time usage of all resource pools in the current project. This API is used when you need to query the real-time usage of resource pools when monitoring resource usage, optimizing resources, planning capacity, or troubleshooting faults. The resource usage includes the usage of CPU, memory, and storage resources. Before using this API, ensure that you have the required permission and there is a running resource pool. After the query, the API returns the real-time usage data of the resource pool, including the usage percentage, resource type, and timestamp. If you do not have the required permission, the resource pool does not exist, or the system cannot obtain the real-time data, the API will return an error message.

Resource pool management

Table 2-16 Resource pool management

API	Description
Creating Resource Pools	This API is used to create a resource pool in the system. This API is used when you need to allocate resources for new services, optimize resource management, or isolate resources. You can use this API to create a resource pool to manage compute, storage, and network resources. Before using this API, ensure that you have the administrator permission and the system has sufficient resources to create resource pools. After the creation, the resource pool will be added to the system and be available for future resource allocation and management. If you do not have the required permission, the system resources are insufficient, or the input parameter is incorrect, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Obtaining Resource Pools	This API is used to obtain information about resource pools created in the system. This API is used when you need to query the resource pool list recorded in the system when monitoring resource pool status, planning resources, managing resource allocation, or auditing. Before using this API, ensure that you have the required permission and the resource pool exists in the system. After the query, the API returns the resource pool list, including the resource pool ID, name, type, status, and resource quota. If you do not have the required permission, the resource pools do not exist in the system, or the query parameter is incorrect, the API will return an error message.
Obtaining a Resource Pool	This API is used to obtain the details of a specified resource pool. This API is used when you need to query details about a specified resource pool, such as its configuration, status, resource usage, or resource management. Before using this API, ensure that you have the required permission and the specified resource pool exists in the system. After the query, the API returns the resource pool details, including the resource pool ID, name, type, status, resource quota, and usage. If the specified resource pool does not exist, the user does not have the permission to perform the operation, or the input parameters are incorrect, the API will return an error message.
Deleting a Resource Pool	This API is used to delete a specified resource pool. This API is used when you need to delete a specified resource pool when the resource pool is no longer required, the configuration is incorrect, or resources need to be cleared. Before using this API, ensure that the resource pool exists and you have the administrator permissions. After the deletion, the specified resource pool is permanently removed, and related resources and configurations are cleared. If the resource pool does not exist, you do not have the operation permission, or the resource pool is depended on by other resources, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Updating a Resource Pool	This API is used to update the configuration and capacity of a specified resource pool. This API is used when you need to update the information about a resource pool when the resource pool capacity needs to be expanded, the configuration needs to be adjusted, or the performance needs to be optimized. Before using this API, ensure that the resource pool exists and you have the administrator permissions. After the update, the configuration and capacity of the resource pool will be updated, and the related resources and configurations will be adjusted. If the resource pool does not exist, the user does not have the permission to perform the operation, or the resource pool cannot be updated, the API will return an error message.
Monitoring a Resource Pool	This API is used to obtain the real-time or historical monitoring information about a specified resource pool. This API is used when you need to obtain the monitoring data of a resource pool in real time, such as resource usage, performance status, or historical data. Before using this API, ensure that the resource pool exists and you have the administrator permissions. After the API is called, the system returns the monitoring information of the resource pool, including the resource usage, performance metrics, and historical trends. If the resource pool does not exist, the user does not have the permission to perform the operation, or the resource pool is unavailable, the API will return an error message.
Resource Pool Statistics	This API is used to obtain the statistics of a specified resource pool. This API is used when you need to obtain the resource usage, allocation, or usage of a resource pool. Before using this API, ensure that the resource pool exists and you have the administrator permissions. After the API is called, the system returns the statistics of the resource pool, including the total resource usage, allocated resources, usage, and resource allocation trend. If the resource pool does not exist, the user does not have the permission to perform the operation, or the resource pool is unavailable, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Resource flavor management APIs

Table 2-17 Resource flavor management APIs

API	Description
Obtaining Resource Specifications	This API is used to obtain available resource specifications. This API is used when you need to view or select resource specifications to create resource pools, allocate resources, or learn available resource specifications. Before using this API, ensure that you have the required permissions (such as administrator permissions or resource management permissions). After the API is called, the system returns the resource specifications, including the specification ID, name, number of CPUs, memory size, and storage capacity. If you do not have the required permission or the resource specifications are not configured, the API will return an error message.

Resource Pool Job Management

Table 2-18 Resource Pool Job Management

API	Description
Obtain Jobs in a Resource Pool	This API is used to obtain the job list in a specified dedicated resource pool. This API is used when you need to obtain details about a dedicated resource pool, such as resource usage, job status, or resource allocation. Before using this API, ensure that the dedicated resource pool exists and you have the required permissions (such as administrator permissions or resource management permissions). After the API is called, the system returns the job list of the dedicated resource pool, including the job ID, name, status, and resource usage. If the dedicated resource pool does not exist, the user does not have the operation permission, or the resource pool is unavailable, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Querying dedicated resource pool Job Statistics	This API is used to obtain job statistics of a dedicated resource pool. This API is used when you need to obtain the job running information, resource usage, or job status distribution of a dedicated resource pool. Before using this API, ensure that the dedicated resource pool exists and you have the required permissions (such as administrator permissions or resource management permissions). After the API is called, the system returns the job statistics of the dedicated resource pool, including the total number of jobs, number of running jobs, number of completed jobs, and resource usage. If the dedicated resource pool does not exist, the user does not have the operation permission, or the resource pool is unavailable, the API returns an error message.

Lite Server Management

Table 2-19 Lite Server Management

API	Description
Querying All Lite Server Instances of a User	This API is used to obtain details about all Lite Server instances of a user. It is used when you need to view the status and configuration of all Lite Server instances of a user for resource management and monitoring. Before using this API, ensure that you have logged in to the system and have the permission to view Lite Server instances. After this API is called, the system returns the list of all Lite Server instances of the user, including the instance ID, name, status, and creation time. If you do not have the required permission or have not logged in, the API returns an error message.
Creating a Lite Server	This API is used to create Lite Server ECSs, BMSs, and supernode servers. It is used when you need to quickly deploy and configure different types of server resources based on service requirements. Before calling this API, ensure that you have logged in to the system and have the permission to create Lite Servers. In addition, you need to provide required parameters, such as the server type, specifications, and network configuration. After the creation, the system returns the information about the created Lite Server instance, including the instance ID and status. If you do not have the required permission, the parameter settings are incorrect, or system resources are insufficient, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Querying Lite Server Instance Details	This API is used to obtain the details of a specified Lite Server instance. It is used when you need to view the configuration, status, and network information of a specific Lite Server instance for fault locating, resource management, and monitoring. Before using this API, ensure that you have logged in to the system, have the permission to view the Lite Server instance, and have a valid instance ID. After the query, the system returns the details of the specified Lite Server instance, including the instance ID, name, status, configuration, and network configuration. If you do not have the required permission, the instance ID is invalid, or the instance does not exist, the API returns an error message.
Deleting a Lite Server Instance	This API is used to delete a created Lite Server instance. It is used when a pay-per-use Lite Server instance is no longer needed, fails to be created, or is in the **ERROR** state. Before using this API, ensure that the Lite Server instance exists and you have the administrator permissions. After the deletion, the Lite Server instance is permanently removed, and related resources are cleared. If the Lite Server instance does not exist or you do not have the required permission, the API returns an error message.
Changing the Lite Server Instance Name	This API is used to change the name of a created DevServer instance. It is used when you need to rename a DevServer instance to better reflect the function or usage of the instance, or when the instance name does not comply with the current project naming rules. Before using this API, ensure that the DevServer instance exists and you have the permission to manage the instance. After the modification, the new name of the instance takes effect immediately and is updated in all related views and records. If the DevServer instance does not exist, you do not have the required permission, or the new name does not comply with the naming rules, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Synchronizing the Status of All Lite Server Instances of a User in Real Time	This API is used to obtain and synchronize the status of a Lite Server instance in real time. It is used when you need to monitor the status of a Lite Server instance in real time to ensure that the instance is running properly or detect and handle exceptions in a timely manner. Before using this API, ensure that you have logged in to the system and have the required permission, and the Lite Server instance has been created and is running. After this API is called, the latest status of the Lite Server instance is returned, including the instance ID, status, and resource usage. If you do not have the required permission or the Lite Server instance does not exist, the API returns an error message.
Starting a Lite Server Instance	This API is used to start a Lite Server instance that has been created but is not running. It is used when you need to use a Lite Server instance for development or testing. Before using this API, ensure that the Lite Server instance has been created and is stopped, and you have the permission to start the instance. If the Lite Server instance does not exist or is running, or you do not have the required permission, the API returns an error message.
Stopping a Lite Server Instance	This API is used to stop a running Lite Server instance. It is used when you need to stop a Lite Server instance to save resources or perform maintenance. Before using this API, ensure that the Lite Server instance has been created and is running, and you have the permission to stop the instance. If the Lite Server instance does not exist or is stopped, or you do not have the required permission, the API returns an error message.
Creating a Lite Server Supernode Tag	This API is used to add a custom tag to a Lite Server supernode. It is used when you need to manage Lite Server supernodes by category or mark specific information. Before using this API, ensure that the Lite Server supernode exists and you have the permission to create tags. After the creation, the tag is added to the specified supernode. You can quickly search for and manage the supernode by tag. If the Lite Server supernode does not exist, the tag already exists, or you do not have the permission to perform operations on the supernode, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Deleting a Lite Server Supernode Tag	This API is used to delete a Lite Server supernode tag. It is used when you need to delete unnecessary tags or correct tag errors. Before using this API, ensure that the Lite Server supernode exists, the supernode has the tag to be deleted, and you have the permission to delete tags. After the deletion, the specified tag is removed from the supernode, and other configurations and data of the supernode remain unchanged. If the Lite Server supernode does not exist, the tag does not exist, or you do not have the permission to perform operations on the supernode, the API returns an error message.
Querying Lite Server Supernode Tags	This API is used to obtain all tag information on a Lite Server supernode. It is used when you need to view or manage tags of a Lite Server supernode. Before using this API, ensure that the Lite Server supernode exists and you have the permission to query tags. After the query, the API returns all tag information on the supernode, including the tag name and related attributes. If the Lite Server supernode does not exist or you do not have the permission to perform operations on the supernode, the API returns an error message.
Reinstalling the OS Image of a Lite Server	This API is used to reinstall the OS image of a Lite Server. It is used when you need to update the OS version, rectify system faults, or reconfigure the system environment. Before using this API, ensure that the Lite Server exists and is stopped, and you have the permission to reinstall the OS. After the reinstallation, the new OS image is installed for the Lite Server and the Lite Server starts running. If the Lite Server does not exist, is running, or you do not have the required permission, the API returns an error message.
Changing the OS Image of a Lite Server	This API is used to change the OS image of a Lite Server. It is used when you need to change the OS of a Lite Server to meet different development or test requirements. Before using this API, ensure that the Lite Server exists and is stopped, and you have the permission to switch the OS. After the OS is switched, the Lite Server will install the new OS image and enter the running state. If the Lite Server does not exist, is in the running state, or you do not have the operation permission, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Changing the OS Image of a Lite Server Supernode	This API is used to change the OS image of a Lite Server supernode. It is used when you need to change the OS of a Lite Server supernode to meet different development or test requirements. Before using this API, ensure that the Lite Server supernode exists and is stopped, and you have the permission to switch the OS. After the OS is switched, the Lite Server supernode will install the new OS image and enter the running state. If the Lite Server supernode does not exist, is in the running state, or you do not have the operation permission, the API returns an error message.
Obtaining Details About All Supernode Instances of a User	This API is used to obtain details about all Lite Server supernode instances of a user. It is used when you need to view the configuration, status, and usage of all supernode instances. Before using this API, ensure that you have logged in to the system and have the permission to query supernode instances. After the query, the API returns details about all supernode instances, including the instance ID, OS, status, and resource usage. If you do not have the required permission or the system does not have supernode instances, the API returns an error message.
Obtaining Details About a Specified Supernode Instance	This API is used to obtain the details of a specific Lite Server supernode instance. It is used when you need to view the configuration, status, and usage of a specified supernode instance. Before using this API, ensure that you have logged in to the system and have the permission to query the supernode instance, and the specified supernode instance exists. After the query, the API returns details about a specified supernode instance, including the instance ID, OS, status, and resource usage. If you do not have the required permission to perform the operation, the specified supernode instance does not exist, or the instance ID is invalid, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Deleting a Lite Server Supernode Instance	This API is used to delete a pay-per-use supernode instance and remove the Lite Server supernode instances in the **ERROR** state. It is used when a supernode instance is in the **ERROR** state due to creation failure or other reasons. Before using this API, ensure that you have logged in to the system and have the permission to delete a supernode instance, and the specified supernode instance is pay-per-use and in the **RUNNING** or **ERROR** state. After the deletion, the specified supernode instance is permanently removed, and related resources are cleared. If the specified supernode instance does not exist, is not in the **ERROR** state, or you do not have the operation permission, the API returns an error message.
Restarting a Lite Server Instance	This API is used to restart a running Lite Server instance. It is used when you need to restart a specified Lite Server instance to apply configuration changes, solve running problems, or maintain the system. Before using this API, ensure that the Lite Server instance has been created and is running, and you have the permission to restart the instance. After the restart, the Lite Server instance restarts and enters the running state. You can continue to use the services provided by the instance. If the Lite Server instance does not exist or is stopped, or you do not have the required permission, the API returns an error message.
Starting a Lite Server Supernode	This API is used to start a Lite Server supernode that has been created but is not running. It is used when you need to start a Lite Server supernode for development or testing. Before using this API, ensure that the Lite Server supernode has been created and is stopped, and you have the permission to start the supernode. After the startup, the supernode enters the running state, and you can access and use the services provided by the server. If the Lite Server supernode does not exist, is in the running state, or you do not have the operation permission, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Stopping a Lite Server Supernode	This API is used to stop a running Lite Server supernode. It is used when you need to stop a Lite Server supernode to save resources or perform maintenance. Before using this API, ensure that the Lite Server supernode has been created and is running or fails to be stopped, and you have the permission to stop the supernode. After the operation, the supernode is stopped and does not provide services. If the Lite Server supernode does not exist, is stopped, or you do not have the permission to stop the supernode, the API returns an error message.
Mounting a Disk to a Lite Server	This API is used to mount an additional disk to a Lite Server. It is used when you need to expand the storage space of a Lite Server to meet larger data storage requirements. Before using this API, ensure that the Lite Server has been created and is running or stopped, you have the permission to mount disks, and the specified disk exists and is not used by other servers. After the mounting, the disk is mounted to the Lite Server, and you can access and use the new storage space. If the Lite Server does not exist, the specified disk does not exist or is in use, or you do not have the required permission, the API returns an error message.
Binding an EIP to a Lite Server	This API is used to bind an EIP to a Lite Server. It is used when you need to assign a fixed public IP address to a Lite Server so that the Lite Server can be accessed from the external network. Before using this API, ensure that the Lite Server has been created and is running, you have the permission to bind an EIP, and the specified EIP exists and is not used by other resources. After the binding, the EIP is bound to the Lite Server and the Lite Server can be accessed from the external network through the EIP. If the Lite Server does not exist, the Lite Server is stopped, the specified EIP does not exist or is in use, or you do not have the required permission, the API returns an error message.
Query Bound EIPs	This API is used to obtain the information about the EIP bound to the Lite Server. It is used when you need to view the EIP bound to the Lite Server and the detailed information. Before using this API, ensure that you have logged in to the system and have the permission to query the EIP, and the specified Lite Server exists. After the query, the API returns the details of the EIP bound to the Lite Server, including the EIP address, binding time, and status. If the Lite Server does not exist, the EIP is not bound to the Lite Server, or you do not have the required permission, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Obtaining the Resource Flavor List	This API is used to obtain available resource specifications. It is used when you need to know the available resource specifications so that you can select proper configurations when creating or adjusting a Lite Server instance. Before using this API, ensure that you have logged in to the system and have the permission to query resource specifications. After the query, the API returns information about all available resource specifications, including the specification ID, CPU, memory, and storage. If you do not have the required permission or the system does not have available resource specifications, the API returns an error message.
Querying the Specification List	This API is used to obtain information about all available resource specifications in the system. It is used when you need to know the available resource specifications so that you can select proper configurations when creating or adjusting a Lite Server instance. Before using this API, ensure that you have logged in to the system and have the permission to query specifications. After the query, the API returns information about all available resource specifications, including the specification ID, CPU, memory, and storage. If you do not have the required permission or the system does not have available resource specifications, the API returns an error message.
Unmounting a Disk from a Lite Server	This API is used to unmount a disk from a Lite Server. It is used when you need to release storage resources or reallocate disks. Before using this API, ensure that the Lite Server has been created and is running or stopped, you have the permission to unmount disks, and the specified disk has been mounted to the server. After the unmounting, the disk is unmounted from the Lite Server, and you can mount the disk to another server or perform other operations. If the Lite Server does not exist, the specified disk is not mounted to the server, or you do not have the required permission, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Creating a RoCE Network	This API is used to create a RoCE network in the system. It is used when you need to create a dedicated RoCE network for high-performance computing or low-latency applications. Before using this API, ensure that you have logged in to the system and have the permission to create a RoCE network, and the required network resources have been configured in the system. After the creation, a RoCE network is created, and details about the RoCE network are returned, including the network ID, subnet information, and configuration parameters. If you do not have the required permission, the system lacks necessary network resources, or the network configuration parameters are invalid, the API returns an error message.
Querying the Lite Server List of a Tenant	This API is used to obtain all Lite Server instances of a specified tenant. It is used when you need to view the details of all Lite Server instances of a tenant for management and monitoring. Before using this API, ensure that you have logged in to the system and have the permission to query the Lite Server list of a tenant. After the query, the API returns the details of all Lite Server instances of the tenant, including the instance ID, name, status, and resource configuration. If you do not have the required permission or the tenant does not have Lite Server instances, the API returns an error message.
Querying Lite Server Image Details	This API is used to obtain the details of a specified Lite Server image. It is used when you need to know the configuration and attributes of a Lite Server image so that you can select a proper image when creating or adjusting a Lite Server instance. Before using this API, ensure that you have logged in to the system and have the permission to query image details, and the specified image exists. After the query, the API returns the details of the specified Lite Server image, including the image ID, name, OS, version, and creation time. If you do not have the operation permission, the specified image does not exist, or the image ID is invalid, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Querying the Lite Server Image List	This API is used to obtain information about all available Lite Server images in the system. It is used when you need to know the available Lite Server images so that you can select a proper image when creating or adjusting a Lite Server instance. Before using this API, ensure that you have logged in to the system and have the permission to query images. After the query, the API returns information about all available Lite Server images, including the image ID, name, and architecture type. If you do not have the permission to perform the operation or no image is available in the system, the API returns an error message.
Querying the HyperInstance List of a Tenant	This API is used to obtain information about all hyper instances of a specified tenant. It is used when you need to view the details of all hyper instances of a tenant for management and monitoring. Before using this API, ensure that you have logged in to the system and have the permission to query the hyper instance list of a tenant. After the query, the API returns the details of all hyper instances of the tenant, including the instance ID, name, status, and resource configuration. If you do not have the required permission or the tenant does not have hyper instances, the API returns an error message.
Obtaining Operation Details	This API is used to obtain the details of a specified operation. It is used when you need to know the execution status of an operation for troubleshooting or operation audit. Before using this API, ensure that you have logged in to the system and have the permission to query the details of an operation, and the specified operation exists. After the query, the API returns the details of the specified operation, including the operation ID, operation type, execution status, start time, end time, and operation result. If you do not have the operation permission, the specified operation does not exist, or the operation ID is invalid, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Querying the Supported Lite Server Scaling Specifications and Capacity Calculation	This API is used to obtain supported scaling specifications of a Lite Server supernode and calculate the capacity. It is used when you need to know the scaling options supported by the Lite Server supernode so that you can select proper specifications when adjusting the supernode resources and evaluate the resource requirements after scaling. Before using this API, ensure that you have logged in to the system and have the permission to query the supernode scaling specifications, and the specified supernode exists. After the query, the API returns the list of supported scaling specifications and capacity calculation results, including the specification ID, CPU, memory, storage, and resource usage after scaling. If you do not have the required permission, the specified supernode does not exist, or no scaling specifications are available in the system, the API returns an error message.
Scaling Out Lite Server Supernodes	This API is used to increase the resource capacity of a Lite Server supernode. It is used when you need to improve the performance of a Lite Server supernode to support more loads or process more data. Before using this API, ensure that you have logged in to the system and have the permission to expand the supernode capacity, and the specified supernode exists and is running. After the scale-out, the resource capacity of the supernode is adjusted based on the specified specifications. You can use the increased resources immediately. If you do not have the required permission to perform the operation, the specified supernode does not exist, the supernode has reached the maximum capacity, or the specified scale-out specifications are invalid, the API returns an error message.
Scaling in Lite Server Supernodes	This API is used to reduce the resource capacity of a Lite Server supernode. It is used when you need to reduce resource usage of Lite Server supernodes to reduce costs or optimize resource allocation. Before using this API, ensure that you have logged in to the system and have the permission to reduce the supernode capacity, and the specified supernode exists and is running. After the scale-in, the resource capacity of the supernode is adjusted based on the specified specifications. You can use the reduced resources immediately. If you do not have the required permission to perform the operation, the specified supernode does not exist, the supernode has reached the minimum capacity, or the specified scale-in specifications are invalid, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Querying the Logical Capacity Calculation Result of the hyperinstance-clusters Supernode	This API is used to obtain the logical capacity calculation result of a specified hyper instance cluster. It is used when you need to know the resource usage and capacity planning of a supernode cluster for resource management and optimization. Before using this API, ensure that you have logged in to the system and have the permission to query the logical capacity of a supernode cluster, and the specified supernode cluster exists. After the query, the API returns the logical capacity calculation result of a specified supernode cluster, including the available capacity information. If you do not have the required permission to perform the operation, the specified supernode cluster does not exist, or the cluster ID is invalid, the API returns an error message.
Querying the Tor Information of an Instance	This API is used to obtain the Top-of-Rack (Tor) switch information of a specified instance. It is used when you need to know the Tor switch connected to an instance for network configuration. Before using this API, ensure that you have logged in to the system and have the permission to query the Tor information of an instance, and the specified instance exists. After the query, the API returns the Tor information of the specified instance. If you do not have the operation permission, the specified instance does not exist, or the instance is not connected to the Tor switch, the API returns an error message.
Obtaining the Hyper Cluster Details List	This API is used to obtain details about all hyper clusters. It is used when you need to know the configuration and status of all supernode networks in the system. Before using this API, ensure that you have logged in to the system and have the permission to query hyper cluster details. After the query, the API returns details about all supernode networks, including the ID, name, and subnet information. If you do not have the required permission or the system does not have hyper clusters, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Creating a Hyper Cluster	This API is used to create a hyper cluster in the system. It is used when you need to use a supernode network and create a hyper cluster. Before using this API, ensure that you have logged in to the system and have the permission to create a hyper cluster, and the required resources have been configured in the system. After the creation, a supernode network is created, and details about the supernode network are returned, including the ID, name, and subnet information. If you do not have the required permission, the system does not have the required resources, or the configuration parameters are invalid, the API returns an error message.
Querying Hyper Cluster Instance Details	This API is used to obtain the details of a specified hyper cluster instance. It is used when you need to know the configuration and status of a supernode network for management and monitoring. Before using this API, ensure that you have logged in to the system, have the permission to query hyper cluster details, and the specified supernode network exists. After the query, the API returns details about the specified supernode network, including the ID, name, and subnet information. If you do not have the required permission to perform the operation, the specified supernode network does not exist, or the ID is invalid, the API returns an error message.
Deleting a Hyper Cluster Instance	This API is used to delete a created hyper cluster instance. It is used when the supernode network is incorrectly configured or resources need to be cleared. Before using this API, ensure that the hyper cluster instance exists and you have the administrator permissions. After the deletion, the supernode network is permanently removed, and related resources and configurations are cleared. If the hyper cluster instance does not exist or you do not have the operation permission, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Performing Operations on Lite Server Instances in Batches	This API is used to perform unified operations, such as starting, stopping, restarting, or deleting Lite Server instances. It is used when you need to perform the same operation on multiple Lite Server instances, for example, stopping instances in batches during maintenance, restarting instances in batches after configuration update, or clearing unnecessary instances. Before using this API, ensure that the target Lite Server instance exists and you have the required operation permissions. After the operation, all specified Lite Server instances will be changed or removed according to the request, and related resources and configurations will be adjusted or cleared accordingly. If the target Lite Server instance does not exist, you do not have the operation permission, or the request parameters are incorrect, the API returns an error message.
Querying Lite Server Job Details	This API is used to obtain the details of a specified Lite Server job. It is used when you need to view the execution status, configuration parameters, and log information of a Lite Server job. Before using this API, ensure that the target Lite Server job exists and you have the view permission. After the query, the API returns the details of the specified Lite Server job, including the job ID, status, creation time, execution time, configuration parameters, and logs. If the target Lite Server job does not exist or you do not have the required permission, the API returns an error message.
Querying the Lite Server Job List	This API is used to obtain the Lite Server job list and filter jobs by status and ID. It is used when you need to view the brief information about multiple Lite Server jobs. For example, you can use this API to obtain the jobs that meet the filter criteria during job status monitoring, troubleshooting, or routine management. Before using this API, ensure that you have the view permission. After the query, the API returns the Lite Server jobs that meet the search criteria, including the ID, status, and creation time. If you do not have the required permission or the request parameters are incorrect, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Deleting Lite Server Jobs in Batches	This API is used to remove multiple Lite Server jobs. It is used when multiple Lite Server jobs are completed, incorrectly configured, or resources need to be cleared. Before using this API, ensure that the target Lite Server job exists and you have the administrator permissions. After the deletion, the specified Lite Server job is permanently removed, and related resources and configurations are cleared. If the target Lite Server job does not exist, you do not have the required permission, or the request parameters are incorrect, the API returns an error message.
Creating a Lite Server Task	This API is used to create a Lite Server task. It is used when you need to start a development, test, or deployment task on the Lite Server. Before using this API, ensure that you have the permission to create a task and the task configuration parameters meet the requirements. After the creation, the Lite Server task is created, and the task ID and other related information are returned. If you do not have the required permission, the parameters are incorrect, or the system resources are insufficient, the API returns an error message.
Obtaining the Lite Server Job Template List	This API is used to obtain the list of available Lite Server job templates. It is used when you need to view available job templates and select a proper template to create a Lite Server task. After the query, the API returns all available Lite Server job templates, including the template ID, name, and description. If no template is available in the system, the API returns an error message.
Obtaining Lite Server Job Template Details	This API is used to obtain the details of a specified Lite Server job template. It is used when you need to view the detailed configurations of a specified job template to learn about the parameter settings and usage description. After the query, the API returns the details of the specified template, including the template ID, name, description, and configuration parameters. If the target template does not exist, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Obtaining the Lite Server Plug-in List	This API is used to obtain the list of available Lite Server plug-ins. It is used when you need to view available plug-ins and select and install the required ones to extend Lite Server functions. Before using this API, ensure that you have the permission to view the plug-in list. After the query, the API returns all available Lite Server plug-ins, including the plug-in ID, name, version, and description. If you do not have the required permission or no plug-in is available, the API returns an error message.
Obtaining Software Information	This API is used to query information about supported software. You can use **flavor_type** and **name** to filter software information. It is used when you need to know the software supported by the system and its details, for example, when you need to select a proper software version or configuration environment. Before using this API, ensure that you have the permission to view software information. After the query, the API returns the software list that meets the search criteria, including the software name, version, and type. If you do not have the required permission, the query parameters are incorrect, or no software that meets the search criteria exists in the system, the API returns an error message.

Authorization Management

Table 2-20 Authorization Management

API	Description
Viewing an Authorization List	This API is used to view the authorization information.
Configuring Authorization	This API is used to configure ModelArts authorization.
Deleting Authorization	This API is used to delete the authorization of a specified user or all users.
Creating a ModelArts Agency	This API is used to create a ModelArts agency for ModelArts-dependent services, such as Object Storage Service (OBS), Software Repository for Container (SWR), and Intelligent EdgeFabric (IEF).

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Workspace Management

Table 2-21 Workspace Management

API	Description
Querying Details About a Workspace	This API is used to query the details about a workspace.
Modifying a Workspace	This API is used to update the configuration information of a specified workspace.
Deleting a Workspace	This API is used to delete a created workspace.
Querying a Workspace Quota	This API is used to obtain the resource quota of a specified workspace.
Modifying a Workspace Quota	This API is used to update the resource quota of a specified workspace.
Querying a Workspace List	This API is used to obtain the details of all created workspaces.
Creating a Workspace	This API is used to create a workspace. The name of the created workspace cannot be **default** , which is the name of the default workspace reserved by the system.
Querying the Authorization Mode	This API is used to obtain the authorization mode and permission configuration information of a specified resource or function. This API is used when system administrators can use this API to view the access permission settings of resources. Developers can use this API to verify whether authorization policies are correctly configured. Security auditors can use this API to check whether authorization configurations comply with security specifications. Before using this API, ensure that you have the query permission and the authorization mode of the target resource or function has been configured. After the API is called, the API returns details about the authorization mode, including the authorization mode type, rules, and permission scope. If you do not have the permission to access this API or the authorization mode of the target resource is not configured, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Updating the Authorization Mode	This API is used to modify the authorization mode and permission configuration information of a specified resource or function. This API is used when system administrators can use this API to adjust the access permission of resources. Developers can use this API to update authorization policies to meet new service requirements. Security auditors can use this API to modify authorization configurations to comply with new security specifications. Before using this API, ensure that you have the update permission and the authorization mode of the target resource or function exists. After the API is called, the API updates the authorization mode of the target resource and returns the updated authorization mode information. If you do not have the permission to access this API or the authorization mode of the target resource does not exist, the API will return an error message.
Authenticating Whether the Current Workspace Can Be Used	This API is used to check whether a user has the permission to access and use resources in the current workspace. This API is used when you try to access or operate resources in the workspace, and the system needs to check whether you have the required permission. Before using this API, ensure that you have logged in and the workspace exists. If the authentication is successful, the user can access and use resources in the workspace. If the authentication fails, the API returns an error message, for example, insufficient permissions or the workspace does not exist.
Querying the User Role Information	This API is used to obtain the role information of a specified user in the system. This API is used when you need to know the permissions and roles of a user in the system. The administrator or system can use this API to query the role information of the user. Before using this API, ensure that the user exists and the role information is defined in the system. After the query, the API returns the role list of the user. If the user does not exist or the role information is not defined in the system, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Obtaining the User List	This API is used to obtain the user list in the system. This API is used when you need to view all users in the system or filter users based on specific conditions. The administrator or system can use this API to query the user list. Before using this API, ensure that the user exists and the query permission is granted. After the query, the API returns the list of users that meet the query conditions. If no user exists in the system or the query user does not have the required permission, the API returns an error message.

Quota Management

Table 2-22 Quota Management

API	Description
Obtaining OS Quotas	This API is used to obtain the quotas of some ModelArts OS resources, such as resource pool quotas and network quotas. This API is used when you need to know the usage limits of resource pools or network resources, plan resource allocation, or monitor resource usage. Before using this API, ensure that ModelArts OS is deployed and you have the required permissions (such as administrator permissions or resource management permissions). After the API is called, the system returns details about resource pool quotas and network quotas, helping you better plan and manage resources. If you do not have the required permission, the service is unavailable, or the quota information is not configured, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Resource Tag Management

Table 2-23 Resource Tag Management

API	Description
Obtaining All Tags of Resource Pools	This API is used to obtain all tags of resource pools in the current project. By default, all workspaces are queried, but tag data is not returned for workspaces to which you do not have permissions. This API is used when you need to manage, classify, or collect statistics on resource pool tags. Before using this API, ensure that you have the required permission and the resource pool exists. After the API is called, the system returns the resource pool tags of all accessible workspaces in the current project. If you do not have the required permission, the resource pool does not exist, or the project is not created, the API will return an error message.
Obtaining Tags of a Resource Pool	This API is used to obtain the tag information of a specified resource pool. This API is used when you need to view, manage, or collect statistics on resource pool tags. Before using this API, ensure that the resource pool exists and you have the required permission. After the API is called, the system returns the tag information of the specified resource pool, including the tag key and tag value. If the resource pool does not exist, you do not have the access permission, or the resource pool is not configured with tags, the API will return an error message.

Node Pool Management

Table 2-24 Node Pool Management

API	Description
Obtaining Node Pools	This API is used to obtain the list of a specified node pool. This API is used when you need to obtain the details about a node pool, such as the configuration, status, or resource management. Before using this API, ensure that the node pool exists and you have the administrator permissions. After the API is called, the system returns the node pool list, including the node pool ID, name, number of nodes, and status. If the node pool does not exist, the user does not have the permission to perform the operation, or the node pool is unavailable, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Creating a Node Pool	This API is used to create a node pool. This API is used when you need to create a node pool with specified configurations when you need to expand compute resources, optimize resource allocation, or deploy new services. Before using this API, ensure that you have the administrator permission and the node pool parameters (such as the number of nodes, specifications, and network configurations) are correctly set. After the creation, the node pool will be created and be available, and the related node information will be recorded. If you do not have the required permission, the parameter settings are incorrect, or system resources are insufficient, the API will return an error message.
Obtaining Details About a Specified Node Pool	This API is used to obtain the details of a specified node pool. This API is used when you need to obtain the details about a node pool, such as the configuration, status, resource usage, or resource management. Before using this API, ensure that the node pool exists and you have the permission to access the node pool. After the API is called, the system returns the details about the node pool, including the node pool ID, name, number of nodes, status, creation time, and configuration parameters. If the node pool does not exist, the user does not have the permission to access the node pool, or the node pool is unavailable, the API will return an error message.
Updating a Node Pool	This API is used to update the configurations of a specified node pool. This API is used when you need to expand the capacity of a node pool, adjust node specifications, optimize resource allocation, or repair node pool configurations. Before using this API, ensure that the node pool exists and you have the administrator permissions. After the update, the configurations of the node pool will be updated, including the number of nodes, node specifications, and network configurations. If the node pool does not exist, the user does not have the permission to operate the node pool, or the configuration parameters are incorrect, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Deleting a Node Pool	This API is used to remove a created node pool. This function is not supported for yearly/monthly resource pools. This API is used when you need to delete a specified node pool when the tasks in the node pool are complete, the configuration is incorrect, or resources need to be cleared. Before using this API, ensure that the node pool exists and you have the administrator permissions. After the deletion, the node pool is permanently removed, and related resources and configurations are cleared. If the node pool does not exist, the user does not have the permission to perform the operation, or the node pool cannot be deleted, for example, it is a yearly/monthly resource pool or the node pool is in use, the API will return an error message.
Obtaining Nodes in a Node Pool	This API is used to obtain details about all nodes in a specified node pool. This API is used when you need to obtain the details about a node pool, such as the node status, resource usage, or resource management. Before using this API, ensure that the node pool exists and you have the permission to access the node pool. After the API is called, the system returns the node list of the node pool, including the node ID, name, status, IP address, and resource usage. If the node pool does not exist, the user does not have the permission to access the node pool, or the node pool is unavailable, the API will return an error message.

Order Management

Table 2-25 Order Management

API	Description
Querying Order Details	This API is used to query order details.

Plugin Management

Table 2-26 Plugin Management

API	Description
Creating a Plugin	This API is used to create plugin instances.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API	Description
Querying the Plugin List	This API is used to list plugin instances.

Task Management

Table 2-27 Task Management

API	Description
Querying Tasks	This API is used to obtain the jobs of the current user.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 value from the URI of an API. For example, the **resource-path** of the API used to obtain a user token is **/v3/auth/tokens**.
query-string	Query parameter, which is optional. Ensure that a question mark (?) is included before a query parameter that is in the format of "Parameter name=Parameter value". For example, **? limit=10** indicates that a maximum of 10 data records will be displayed.

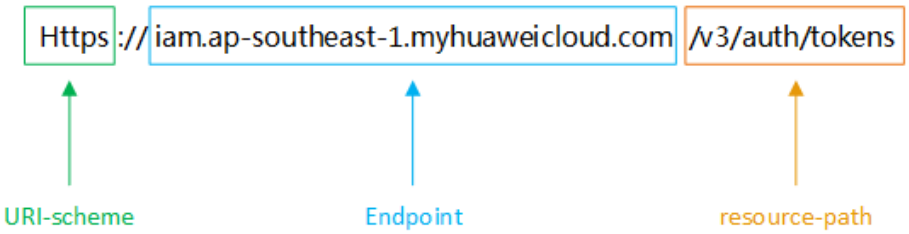
For example, to obtain a token in the **CN-Hong Kong** region, obtain the endpoint of IAM (**iam.ap-southeast-1.myhuaweicloud.com**) for this region and the

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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, each API is provided with only 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

HTTP defines the following request methods that can be used to send a request to the server.

Table 3-2 HTTP methods

Method	Description
GET	Request the server to return specified resources.
PUT	Request the server to update specified resources.
POST	Request the server to add resources or perform special operations.
DELETE	Request the server to delete specified resources, for example, an object.
HEAD	Request header.
PATCH	Request the server to update partial content of a specified resource. If the requested resource does not exist, the server may create the resource using the PATCH method.

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
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Header

You can 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 common request header fields.

Table 3-3 Common request headers

Parameter	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, in bytes.	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 a token for each project.	No	e9993fc787d94b6c886cbaa340f9c0f4
X-Auth-Token	User token, 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	N/A
X-Sdk-Date	Time when the request is sent. The time is in *YYYYMMDD'T'HHMMSS'Z'* format. The value is the current GMT time of the system.	Mandatory for AK/SK-based authentication, optional for PKI token-based authentication	20190307T101459Z

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Description	Mandatory	Example
Authorization	Authentication information. The value is obtained from the request signature result and is required when the AK/SK are used to encrypt the signature. Type: string Default value: none	Mandatory for AK/SK-based authentication	SDK-HMAC-SHA256 Credential=ZIRRKMTWPTQFQI1WKNKB/20150907//ec2/sdk_request, SignedHeaders=content-type;host;x-sdk-date, Signature=55741b610f3c9fa3ae40b5a8021ebf7ebc2a28a603fc62d25cb3bfe6608e1994
Host	Server information of the resource being requested. The value can be obtained from the URL of the service API. This value is *host name*[:*port number*]. If the port number is not specified, the default port is used. The default port number for **https** is **443**.	Mandatory for AK/SK-based authentication	code.test.com or code.test.com:443

NOTE

In addition to supporting token-based authentication, APIs support authentication using AK/SK. During AK/SK authentication, an SDK is used to sign a request, and 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 used to **obtain a user token** does not require authentication. Therefore, only the **Content-Type** field needs to be added to requests for calling the API. An example of such requests 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 depending on APIs. Some APIs do not require the request body, such as the APIs requested using the GET or DELETE method.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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": "user_name",
          "password": "user_password",
          "domain": {
            "name": "domain_name"
          }
        }
      }
    },
    "scope": {
      "project": {
        "name": "ap-southeast-1"
      }
    }
  }
}
```

After all data required for the API request is available, 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

You can use either of the authentication methods below to call APIs. AK/SK-based authentication is recommended because it is more secure than token-based authentication.

- Token-based authentication: General requests are authenticated using tokens.
- AK/SK-based authentication: Requests are authenticated by encrypting the request body using an AK/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 certain permissions in a computer system. During token-based authentication, the token is added to requests to get permissions for calling the API.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 must be added to requests to specify the token when calling other APIs. For example, if the token is **ABCDEFJ....**, add **X-Auth-Token: ABCDEFJ....** 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 authentication is recommended.

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

- AK: access key ID, which is a unique identifier used with a secret access key to sign requests cryptographically.
- SK: secret access key, which is 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 authentication, you can use an AK/SK to sign requests based on the signature algorithm or use the signing SDK to sign requests. For details about how to sign requests and use the signing SDK, see **API Request Signing Guide**.

NOTICE

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 1*xx* to 5*xx*. 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



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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
    "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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

4 Development Environment Management

4.1 Creating a Notebook Instance

Function

This API is used to create a notebook instance based on specified parameters.

This API applies to the following scenario: When you need to create a notebook instance for a specific task or project, you can use this API to specify the instance specifications, AI engine images, and storage configurations. Before using this API, ensure that you have logged in to the system, have the permission to create a notebook instance, and provide valid creation parameters. After this API is called, the system asynchronously creates a notebook instance. You can obtain the instance status by calling the query API. After the notebook instance is created, you can access the notebook instance through the web page or SSH client. If you do not have the permission to create an instance or the parameters are invalid, the API will return an error message. Other exceptions include insufficient system resources and creation failure. The API will return the corresponding error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:notebook:create	Write	notebook *	-	-	-
		-	• g:TagKeys • modelarts:poolType • modelarts:poolId • g:EnterpriseProjectId • g:RequestTag/<tag-key>		

URI

POST /v1/{project_id}/notebooks

Table 4-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 4-2 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	**Definition**: Instance description. **Constraints**: N/A **Range**: The value can contain up to 512 characters and cannot contain these special characters (&<>"'/). **Default Value**: N/A
duration	No	Long	**Definition**: Running duration calculated from the current time, in milliseconds. The instance automatically stops when the duration expires. It is recommended that this parameter be set in **leaseReq**. If this parameter is set here, the value set in **leaseReq** is ignored and the instance is stopped as scheduled. **Constraints**: N/A **Range**: 3600000 to 259200000 **Default Value**: **3600000**
endpoints	No	Array of **EndpointsReq** objects	**Definition**: Only a local IDE (such as PyCharm or VS Code) or SSH client can be used to access a notebook instance. **Constraints**: Configurations are only required for remotely accessing a notebook instance via SSH on a local IDE (such as PyCharm or VS Code) or SSH client.
feature	No	String	**Definition**: Instance type. **Constraints**: N/A **Range**: • **DEFAULT**: free CodeLab instance. Each user can create only one. • **NOTEBOOK**: billed instance. **Default Value**: **NOTEBOOK**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
flavor	No	String	**Definition**: Instance flavor. The following flavors are for reference only. Obtain the flavors displayed on the console in the target region. • **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 **Constraints**: N/A **Range**: N/A **Default Value**: N/A
custom_spec	No	**NotebookCustomSpec** object	**Definition**: Custom specifications of an instance. Either this parameter or **flavor** must be set. **Constraints**: This is only supported in CPU or GPU dedicated pool scenarios based on the specific node specifications of the dedicated pool.
image_id	Yes	String	**Definition** : ID of the image used for creating notebook instances. The ID is in the format of a Universally Unique Identifier (UUID). For details, see [Querying Supported Images]](https://support.huaweicloud.com/intl/en-us/api-modelarts/ListImage.html). **Constraints**: N/A **Range**: Valid image IDs obtained by calling the API for **Querying Supported Images**. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
name	Yes	String	**Definition**: Instance name. **Constraints**: N/A **Range**: The value can contain a maximum of 128 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. The name can be duplicate. **Default Value**: N/A
pool_id	No	String	**Definition**: ID of a dedicated resource pool. This parameter is mandatory if a dedicated resource pool is used to create an instance. The dedicated resource pool ID can be obtained by calling the API for **Obtaining Resource Pools**. **Constraints**: N/A **Range**: Valid resource pool IDs obtained by calling the API for **Obtaining Resource Pools**. **Default Value**: N/A
volume	Yes	**VolumeReq** object	**Definition**: Storage configuration. **Constraints**: N/A
workspace_id	No	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Constraints**: N/A **Range**: This value is a string of 0 or 32 characters. Only digits or lowercase letters are allowed. **Default Value**: **0**
hooks	No	**CustomHooks** object	**Definition**: Hook configuration of a custom boot script. **Constraints**: N/A
lease	No	**LeaseReq** object	**Definition**: Instance lease configuration. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
affinity	No	AffinityType object	**Definition**: Instance affinity configuration. **Constraints**: N/A.
run_user	No	RunUserRequest object	**Definition**: Startup user and startup user group settings. **Constraints**: N/A. **Default Value**: uid=1000, gid=100 **Range**: When started as **root**/**root**: uid=0, gid=0 When started as **ma-user**/**ma-group**: uid=1000, gid=100

Table 4-3 EndpointsReq

Parameter	Mandatory	Type	Description
allowed_access_ips	No	Array of strings	**Definition**: Public IP addresses that can remotely access the notebook instance. A maximum of five public IP addresses are supported. **Constraints**: N/A
service	No	String	**Definition**: Supported services. **Constraints**: N/A **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH. **Default Value**: N/A
key_pair_names	No	Array of strings	**Definition**: Name of the SSH key pair, which can be created and viewed on the **Key Pair** page of the Elastic Cloud Server (ECS) console. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-4 NotebookCustomSpec

Parameter	Mandatory	Type	Description
gpu	No	Float	**Definition**: This parameter is mandatory for GPU dedicated pools. It indicates the number of GPUs requested for an instance. If no GPU needs to be scheduled, set this parameter to **0**. **Constraints**: Do not set this parameter in the CPU dedicated pool scenario. Unit: PU. The minimum value is **0**. The maximum value depends on the specifications of a single node in the GPU dedicated pool.
cpu	Yes	Float	**Definition**: This parameter is mandatory for CPU and GPU dedicated pools. It indicates the number of CPU cores requested for an instance. **Constraints**: Unit: core. The value must be greater than 0.3 cores. The maximum value depends on the specifications of a single node in the dedicated pool.
memory	Yes	Float	**Definition**: This parameter is mandatory in the CPU/GPU dedicated pool scenario. It indicates the memory size requested for an instance. **Constraints**: Unit: MiB. The value is a positive integer greater than 512 MiB. The maximum value depends on the specifications of a single node in the dedicated pool.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-5 VolumeReq

Parameter	Mandatory	Type	Description
capacity	No	Integer	**Definition**: Storage capacity, in GB. **Constraints**: This attribute takes effect when **category** is set to **EVS**. **Range**: **5** to **4096** **Default Value**: **5**
category	Yes	String	**Definition**: Supported storage type. For details about the differences between the storage types, see **Selecting Storage in DevEnviron**] (tag:hk). **Constraints**: N/A **Range**: • **SFS** • **EVS** • **OBS** • **OBSFS**: parallel file system • **EFS**: SFS Turbo **Default Value**: **EVS**
ownership	Yes	String	**Definition**: Resource owner. **Constraints**: N/A **Range**: • **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**. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
uri	No	String	**Definition**: URI of the EFS dedicated storage disk or path of the OBS parallel file system. To view the value, follow these steps: • **EFS**: 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. • **OBS**: The parallel file system name is in the format of obs://<bucket_name>/<directory_path>/. Log in to the OBS console. In the parallel file system list, the file system name is the bucket name. Click the file system name to access its details page. Select a specific directory and choose **More** > **Copy Path** on the right. The path is the directory path. **Constraints**: This parameter is only mandatory when **category** is set to **EFS**, **OBS**, or **OBSFS** and **ownership** is set to **DEDICATED**. **Range**: N/A **Default Value**: N/A
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-6 CustomHooks

Parameter	Mandatory	Type	Description
container_hooks	No	**ContainerHooks** object	**Definition**: Container hook configuration. **Constraints**: N/A

Table 4-7 ContainerHooks

Parameter	Mandatory	Type	Description
post_start	No	**Config** object	**Definition**: Script configuration after the service is started. **Constraints**: N/A
pre_start	No	**Config** object	**Definition**: Script configuration before the service is started. **Constraints**: N/A

Table 4-8 Config

Parameter	Mandatory	Type	Description
script	No	String	**Definition**: Custom script (Base64 encoding) or absolute path of a script. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
type	No	String	**Definition**: Script type. **Constraints**: N/A **Range**: • **COMMAND**: The script content (Base64-encoded) must be specified. • **SCRIPT**: The script path must be specified. **Default Value**: SCRIPT

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-9 LeaseReq

Parameter	Mandatory	Type	Description
duration	No	Long	**Definition**: The instance stops as scheduled. Its runtime is measured in milliseconds starting now. **Constraints**: N/A **Range**: 3600000 to 259200000 **Default Value**: **3600000**
type	No	String	**Definition**: Auto stop type. **Constraints**: N/A **Range**: • **TIMING**: auto stop • **IDLE**: stop when idle **Default Value**: **TIMING**

Table 4-10 AffinityType

Parameter	Mandatory	Type	Description
required_during_scheduling_ignored_during_execution	No	Array of **AffinityRule** objects	**Definition**: Strong affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory.
preferred_during_scheduling_ignored_during_execution	No	Array of **AffinityRule** objects	**Definition**: Weak affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory, and **weight** is optional.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-11 AffinityRule

Parameter	Mandatory	Type	Description
key	No	String	**Definition**: Affinity description. Both default labels and custom labels are supported. For details about the default node labels, see**Managing Node Labels**. **Constraints**: Labels are key-value pairs. A valid label key consists of two segments: prefix (optional) and name, which are separated by a slash (/). **Range**: The name segment is mandatory and must be less than or equal to 63 characters. It must start and end with a letter or digit and only contain letters, digits, hyphens (-), underscores (_), and periods (.). The prefix is optional. If specified, the prefix must be a DNS subdomain: a series of DNS labels separated by periods (.), with a total of no more than 253 characters, followed by a slash (/). For details, see **Labels and Selectors**. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
operator	No	String	**Definition**: Operator. **Constraints**: N/A **Range**: The following operators are supported: In: The label of the affinity or anti-affinity object is in the label value list (values field). NotIn: The label of the affinity or anti-affinity object is not in the label value list (values field). Exists: The affinity or anti-affinity object has a specified label key. DoesNotExist: The affinity or anti-affinity object does not have a specified label key. Gt: The label value of the scheduling node exceeds what is listed (string comparison). Lt: The label value of the scheduling node is under what is listed (string comparison). **Default Value**: N/A.
values	No	Array of strings	**Definition**: When configuring node affinity, enter the value of the node label. Constraints: The value must be 63 characters or fewer (can be empty). If the label value is not empty, the value must start and end with a letter or digit and can contain hyphens (-), underscores (_), periods (.), letters, or digits. For details, see **Labels and Selectors**.
weight	No	Integer	Weight value of the weak affinity node. The value ranges from 0 to 100. The value is **NULL** for strong affinity and optional for weak affinity.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-12 RunUserRequest

Parameter	Mandatory	Type	Description
uid	No	Integer	User ID of the container startup user.
gid	No	Integer	Group ID of the container startup user.

Response Parameters

Status code: 200

Table 4-13 Response body parameters

Parameter	Type	Description
action_progress	Array of **JobProgress** objects	**Definition**: Initialization progress of the instance.
description	String	**Definition**: Instance description. **Range**: N/A
endpoints	Array of **EndpointsRes** objects	**Definition**: Local IDE (such as PyCharm and VS Code) or SSH client for remotely accessing a notebook instance through SSH.
fail_reason	String	**Definition**: Instance failure cause. **Range**: N/A
flavor	String	**Definition**: Instance flavor. 1. If you select a system specification, the returned value is the system specification code. 2. If you select a custom specification when creating an instance, this parameter is always returned as **custom.flavor.spec.code**. **Range**: N/A.
custom_spec	**NotebookCustomSpecRep** object	**Definition**: Custom specifications of an instance. This parameter is returned only when a CPU or GPU dedicated pool is used and the custom specifications are used. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
id	String	**Definition**: Instance ID. **Range**: N/A
image	**Image** object	**Definition**: Instance image information.
lease	**Lease** object	**Definition**: Countdown to auto stop of an instance.
name	String	**Definition**: Instance name. **Range**: N/A
pool	**Pool** object	**Definition**: Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.
status	String	**Definition**: Instance status. **Range**: • **INIT**: The instance is being initialized. • **CREATING**: The instance is being created. • **STARTING**: The instance is being started. • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
token	String	**Description**: Token used for notebook authentication. **Range**: N/A
url	String	**Definition**: URL for accessing the instance. **Range**: N/A
volume	**VolumeRes** object	**Definition**: Instance storage information.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
feature	String	**Definition**: Instance type. **Range**: • **DEFAULT**: free CodeLab instance. Each user can create only one. • **NOTEBOOK**: billed instance.
billing_items	Array of strings	**Definition**: Billing resource type. **Range**: • **STORAGE**: Storage resource billing • **COMPUTE**: Computing resources billing • **ALL**: All billing types
user	**user** object	**Description**: Account information.
affinity	**AffinityType** object	**Definition**: Affinity information.
run_user	**RunUserInfo** object	**Definition**: Information about the startup user and startup user group.

Table 4-14 JobProgress

Parameter	Type	Description
notebook_id	String	**Definition**: Instance ID. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Job status in a specified step. **Range**: • **WAITING**: The job is awaiting. • **PROCESSING**: The job is being processed. • **FAILED**: The job failed. • **COMPLETED**: The job is complete.
step	Integer	**Definition**: Job step. **Range**: • **1**: Prepare storage. • **2**: Prepare compute resources. • **3**: Configure the network. • **4**: Initialize the instance.
step_description	String	**Definition**: Job description in a specified step. **Range**: N/A

Table 4-15 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 4-16 NotebookCustomSpecRep

Parameter	Type	Description
gpu	Float	**Definition**: This parameter is mandatory for GPU dedicated pools. It indicates the number of GPUs requested for an instance. If no GPU needs to be scheduled, set this parameter to **0**. **Constraints**: This field is not available in the CPU dedicated pool scenario.
gpu_type	String	**Definition**: This parameter is one of the response parameters for custom specifications in the GPU dedicated pool scenario. It indicates the type of GPU accelerator cards requested for an instance. **Constraints**: This field is not available in the CPU dedicated pool scenario.
cpu	Float	**Definition**: This parameter is mandatory for CPU and GPU dedicated pools. It indicates the number of CPU cores requested for an instance.
memory	Float	**Definition**: Memory size requested for an instance.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
arch	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the CPU architecture of the custom specifications requested for an instance. **Constraints**: The value can be **x86_64** or **AARCH64**.
category	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the type of the custom specifications requested for an instance. **Constraints**: The value can be **CPU** or**GPU**.

Table 4-17 Image

Parameter	Type	Description
arch	String	**Definition**: Processor architecture supported by the image. **Range** • **X86_64**: x86 architecture • **AARCH64**: Arm architecture
create_at	Long	**Definition**: UTC time when the image is created, accurate to millisecond. **Range**: N/A
description	String	**Definition**: Image description. **Range**: Up to 512 characters
dev_services	Array of strings	**Definition**: Services supported by the image. **Range**: • **NOTEBOOK**: You can access a notebook instance using HTTPS. • **SSH**: You can remotely access a notebook instance from a local IDE through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
id	String	**Definition**: ID of the image used for creating notebook instances. The ID is in Universally Unique Identifier (UUID) format. For details, see **Querying Supported Images**. **Range**: N/A
name	String	**Definition**: Image name. **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed.
namespace	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Range**: N/A
origin	String	**Definition**: Image source. **Range**: • **CUSTOMIZE**: custom image • **IMAGE_SAVE**: image saved by a notebook instance
resource_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
service_type	String	**Definition**: Supported image types. **Range**: • **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	**Definition**: Image size, in KB. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Image status. **Range**: • **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	**Definition**: Build information during image saving. **Range**: N/A
support_res_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
swr_path	String	**Definition**: SWR image path. **Range**: N/A
tag	String	**Definition**: Image tag. **Range**: N/A
type	String	**Definition**: Image type. **Range**: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved
update_at	Long	**Definition**: Time (UTC) when the image was last updated, accurate to millisecond. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
visibility	String	**Definition**: Image visibility. **Range**: • **PRIVATE**: private image • **PUBLIC**: All users can perform read-only operations based on **image_id**.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
flavor_type	String	**Definition**: Resource type of the image. **Range**: • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip

Table 4-18 Lease

Parameter	Type	Description
create_at	Long	**Definition**: UTC time when the instance is created, accurate to millisecond. **Range**: N/A
duration	Long	**Definition**: Instance runtime, which is calculated based on the instance creation time. If the instance creation time plus the runtime is greater than the current time, the system automatically stops the instance. **Range**: N/A
enable	Boolean	**Definition**: Specifies whether to enable auto stop. **Range**: Boolean • **true**: Auto stop is enabled. • **false**: Auto stop is disabled.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Auto stop type. **Range**: • **TIMING**: auto stop • **IDLE**: stop when idle
update_at	Long	**Definition**: Time (UTC) when the instance is last updated (excluding liveness check), accurate to millisecond. **Range**: N/A

Table 4-19 Pool

Parameter	Type	Description
id	String	**Definition**: Dedicated resource pool ID. **Range**: N/A
name	String	**Definition**: Dedicated resource pool name. **Range**: N/A

Table 4-20 VolumeRes

Parameter	Type	Description
capacity	Integer	**Definition**: Storage capacity. **Range**: The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4,096 GB.
category	String	**Definition**: Supported storage type. For details about the differences between the storage types, see **Selecting Storage in DevEnviron**] (tag:hk). **Range**: • **SFS** • **EVS** • **OBS** • **OBSFS**: parallel file system • **EFS**: SFS Turbo

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
mount_path	String	**Definition**: Directory of the notebook instance to which the storage is mounted. Currently, the directory is **/home/ma-user/work/**. **Range**: N/A
ownership	String	**Definition**: Resource owner. **Range**: • **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	**Definition**: EVS disk capacity expansion status, which is **RESIZING** during capacity expansion and does not affect the instance. **Range**: N/A

Table 4-21 user

Parameter	Type	Description
domain	**domain** object	**Description**: Domain information of the account.
id	String	**Definition**: User ID. For details, see **Obtaining a Username and ID**. **Range**: N/A.
name	String	**Definition**: Username. **Range**: N/A.

Table 4-22 domain

Parameter	Type	Description
id	String	**Definition**: Account ID. **Range**: N/A
name	String	**Definition**: Account name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-23 AffinityType

Parameter	Type	Description
required_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Strong affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory.
preferred_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Weak affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory, and **weight** is optional.

Table 4-24 AffinityRule

Parameter	Type	Description
key	String	**Definition**: Affinity description. Both default labels and custom labels are supported. For details about the default node labels, see **Managing Node Labels**. **Constraints**: Labels are key-value pairs. A valid label key consists of two segments: prefix (optional) and name, which are separated by a slash (/). **Range**: The name segment is mandatory and must be less than or equal to 63 characters. It must start and end with a letter or digit and only contain letters, digits, hyphens (-), underscores (_), and periods (.). The prefix is optional. If specified, the prefix must be a DNS subdomain: a series of DNS labels separated by periods (.), with a total of no more than 253 characters, followed by a slash (/). For details, see **Labels and Selectors**. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
operator	String	**Definition**: Operator. **Constraints**: N/A **Range**: The following operators are supported: In: The label of the affinity or anti-affinity object is in the label value list (values field). NotIn: The label of the affinity or anti-affinity object is not in the label value list (values field). Exists: The affinity or anti-affinity object has a specified label key. DoesNotExist: The affinity or anti-affinity object does not have a specified label key. Gt: The label value of the scheduling node exceeds what is listed (string comparison). Lt: The label value of the scheduling node is under what is listed (string comparison). **Default Value**: N/A.
values	Array of strings	**Definition**: When configuring node affinity, enter the value of the node label. Constraints: The value must be 63 characters or fewer (can be empty). If the label value is not empty, the value must start and end with a letter or digit and can contain hyphens (-), underscores (_), periods (.), letters, or digits. For details, see **Labels and Selectors**.
weight	Integer	Weight value of the weak affinity node. The value ranges from 0 to 100. The value is **NULL** for strong affinity and optional for weak affinity.

Table 4-25 RunUserInfo

Parameter	Type	Description
uid	Integer	User ID of the container startup user.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
gid	Integer	Group ID of the container startup user.
user_name	String	Username of the container startup user.
group_name	String	Group name of the container startup user.

Status code: 201

Created

Example Requests

- Create a notebook instance. Set the instance affinity to either strong or weak. If strong affinity is selected, instances are scheduled to the node whose tag is **<kubernetes.io/hostname, 192.168.1.1>** in the **pool-test1202-06024304be00d5092fbdc0013d201342** dedicated resource pool.

```
{
  "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
  },
  "pool_id" : "pool-test1202-06024304be00d5092fbdc0013d201342",
  "affinity" : {
    "required_during_scheduling_ignored_during_execution" : [ {
      "key" : "kubernetes.io/hostname",
      "operator" : "In",
      "values" : [ "192.168.1.1" ]
    } ]
  }
}
```

- Create a notebook instance. If weak affinity is selected, when instances are scheduled to the node whose tag is **<kubernetes.io/hostname, 192.168.1.1>** in the **pool-test1202-06024304be00d5092fbdc0013d201342** dedicated resource pool, the weight is 80. When instances are scheduled to the node whose tag is **<kubernetes.io/hostname, 192.168.1.2>**, the weight is 10. Instances are preferentially scheduled to the node with a larger weight.

```
{
  "name" : "notebooks_test",
  "feature" : "NOTEBOOK",
  "workspace_id" : "0",
  "description" : "api-test",
  "pool_id" : "pool-test1202-06024304be00d5092fbdc0013d201342",
  "custom_spec" : {
    "gpu" : 1,
    "cpu" : 0.5,
    "memory" : 40
  },
  "image_id" : "e1a07296-22a8-4f05-8bc8-e936c8e54090",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "volume" : {
    "category" : "evs",
    "ownership" : "managed",
    "capacity" : 50
  },
  "affinity" : {
    "preferred_during_scheduling_ignored_during_execution" : [ {
      "weight" : 80,
      "key" : "kubernetes.io/hostname",
      "operator" : "In",
      "values" : [ "192.168.1.1" ]
    }, {
      "weight" : 10,
      "key" : "kubernetes.io/hostname",
      "operator" : "In",
      "values" : [ "192.168.1.2" ]
    } ]
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "description" : "api-test",
  "feature" : "NOTEBOOK",
  "flavor" : "custom.flavor.spec.code",
  "custom_spec" : {
    "arch" : "x86_64",
    "category" : "GPU",
    "gpu" : 1,
    "cpu" : 0.5,
    "memory" : 40
  },
  "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.xxxxx.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",
  "affinity" : {
    "required_during_scheduling_ignored_during_execution" : [ {
      "key" : "kubernetes.io/hostname",
      "operator" : "In",
      "values" : [ "192.168.1.1" ]
    } ]
  }
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 obtain information about notebook instances that meet specific conditions.

This API applies to the following scenarios: When you manage multiple notebook instances or view notebook instances in a specified status, you can use this API to obtain related information. Before using this API, ensure that you have created a notebook instance and have the query permission. After the API is successfully called, the system returns the list of notebook instances that meet the search criteria. Details such as the instance ID, status, and creation time can be obtained. If you do not have the access permission or the query conditions are unclear, the API will return an error message or an empty list.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:notebook:list	List	notebook *	-	-	-
		-	• g:EnterpriseProjectId • g:RequestTag/<tag-key> • g:TagKeys		

URI

GET /v1/{project_id}/notebooks

Table 4-26 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 4-27 Query Parameters

Parameter	Mandatory	Type	Description
feature	No	String	**Definition**: Instance type **Constraints**: N/A **Range**: Enums: • **DEFAULT**: free CodeLab instance. Each user can create only one. • **NOTEBOOK**: billed instance **Default Value**: **NOTEBOOK**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
limit	No	Integer	**Definition**: Number of instances displayed on each page **Constraints**: N/A **Range**: [10,20,50] **Default Value**: **10**
name	No	String	**Definition**: Instance name. Fuzzy match is supported. **Constraints**: N/A **Range**: The value can contain a maximum of 128 characters. Letters, digits, hyphens (-), and underscores (_) are allowed. **Default Value**: N/A
pool_id	No	String	**Definition**: Dedicated resource pool ID **Constraints**: N/A **Range**: This value contains 4 to 64 characters. Lowercase letters, digits, and hyphens (-) are allowed. It must start with a lowercase letter and end with a lowercase letter or digit. **Default Value**: N/A
offset	No	Integer	**Definition**: Start offset of the records on each page **Constraints**: N/A **Range**: N/A **Default Value**: **0**
owner	No	String	**Definition**: User ID of the instance. 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. **Constraints**: N/A **Range**: This value contains 32 characters. Lowercase letters and digits are allowed. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
sort_dir	No	String	**Definition**: Instance sorting mode **Constraints**: N/A **Range**: Enums: • **ASC**: ascending order • **DESC**: descending order **Default Value**: **DESC**
sort_key	No	String	**Definition**: Sorting field. Separate multiple fields with commas (,). **Constraints**: N/A **Range**: The value can contain a maximum of 128 characters. Letters, digits, hyphens (-), underscores (_), and commas (,) are allowed. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
status	No	String	**Definition**: Instance status **Constraints**: N/A **Range**: Enums: • **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. **Default Value**: N/A
workspaceId	No	String	**Definition**: Workspace ID. For details about how to obtain the value, see **Obtaining Workspaces**. If no workspace is created, the default value is **0**. If a workspace is created and used, use the actual value. **Constraints**: N/A **Range**: N/A **Default Value**: **0**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

None

Response Parameters

Status code: 200

Table 4-28 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. **Range**: Positive integers
data	Array of **NotebookResp** objects	**Definition**: Notebook instance data.
pages	Integer	**Definition**: Total number of pages. **Range**: Positive integers
size	Integer	**Definition**: Number of records on each page. **Range**: Positive integers
total	Long	**Definition**: Total number of records. **Range**: Non-negative integers

Table 4-29 NotebookResp

Parameter	Type	Description
action_progress	Array of **JobProgress** objects	**Definition**: Initialization progress of the instance.
description	String	**Definition**: Instance description. **Range**: N/A
endpoints	Array of **EndpointsRes** objects	**Definition**: Local IDE (such as PyCharm and VS Code) or SSH client for remotely accessing a notebook instance through SSH.
fail_reason	String	**Definition**: Instance failure cause. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
flavor	String	**Definition**: Instance flavor. 1. If you select a system specification, the returned value is the system specification code. 2. If you select a custom specification when creating an instance, this parameter is always returned as **custom.flavor.spec.code**. **Range**: N/A.
custom_spec	**NotebookCustomSpecRep** object	**Definition**: Custom specifications of an instance. This parameter is returned only when a CPU or GPU dedicated pool is used and the custom specifications are used. **Range**: N/A.
id	String	**Definition**: Instance ID. **Range**: N/A
image	**Image** object	**Definition**: Instance image information.
lease	**Lease** object	**Definition**: Countdown to auto stop of an instance.
name	String	**Definition**: Instance name. **Range**: N/A
pool	**Pool** object	**Definition**: Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. **Range**: • **INIT**: The instance is being initialized. • **CREATING**: The instance is being created. • **STARTING**: The instance is being started. • **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	**Description**: Token used for notebook authentication. **Range**: N/A
url	String	**Definition**: URL for accessing the instance. **Range**: N/A
volume	**VolumeRes** object	**Definition**: Instance storage information.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
feature	String	**Definition**: Instance type. **Range**: • **DEFAULT**: free CodeLab instance. Each user can create only one. • **NOTEBOOK**: billed instance.
billing_items	Array of strings	**Definition**: Billing resource type. **Range**: • **STORAGE**: Storage resource billing • **COMPUTE**: Computing resources billing • **ALL**: All billing types
user	**user** object	**Description**: Account information.
affinity	**AffinityType** object	**Definition**: Affinity information.
run_user	**RunUserInfo** object	**Definition**: Information about the startup user and startup user group.

Table 4-30 JobProgress

Parameter	Type	Description
notebook_id	String	**Definition**: Instance ID. **Range**: N/A
status	String	**Definition**: Job status in a specified step. **Range**: • **WAITING**: The job is awaiting. • **PROCESSING**: The job is being processed. • **FAILED**: The job failed. • **COMPLETED**: The job is complete.
step	Integer	**Definition**: Job step. **Range**: • **1**: Prepare storage. • **2**: Prepare compute resources. • **3**: Configure the network. • **4**: Initialize the instance.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
step_description	String	**Definition**: Job description in a specified step. **Range**: N/A

Table 4-31 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-32 NotebookCustomSpecRep

Parameter	Type	Description
gpu	Float	**Definition**: This parameter is mandatory for GPU dedicated pools. It indicates the number of GPUs requested for an instance. If no GPU needs to be scheduled, set this parameter to **0**. **Constraints**: This field is not available in the CPU dedicated pool scenario.
gpu_type	String	**Definition**: This parameter is one of the response parameters for custom specifications in the GPU dedicated pool scenario. It indicates the type of GPU accelerator cards requested for an instance. **Constraints**: This field is not available in the CPU dedicated pool scenario.
cpu	Float	**Definition**: This parameter is mandatory for CPU and GPU dedicated pools. It indicates the number of CPU cores requested for an instance.
memory	Float	**Definition**: Memory size requested for an instance.
arch	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the CPU architecture of the custom specifications requested for an instance. **Constraints**: The value can be **x86_64** or **AARCH64**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
category	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the type of the custom specifications requested for an instance. **Constraints**: The value can be **CPU** or**GPU**.

Table 4-33 Image

Parameter	Type	Description
arch	String	**Definition**: Processor architecture supported by the image. **Range** • **X86_64**: x86 architecture • **AARCH64**: Arm architecture
create_at	Long	**Definition**: UTC time when the image is created, accurate to millisecond. **Range**: N/A
description	String	**Definition**: Image description. **Range**: Up to 512 characters
dev_services	Array of strings	**Definition**: Services supported by the image. **Range**: • **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	**Definition**: ID of the image used for creating notebook instances. The ID is in Universally Unique Identifier (UUID) format. For details, see **Querying Supported Images**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
name	String	**Definition**: Image name. **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed.
namespace	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Range**: N/A
origin	String	**Definition**: Image source. **Range**: • **CUSTOMIZE**: custom image • **IMAGE_SAVE**: image saved by a notebook instance
resource_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
service_type	String	**Definition**: Supported image types. **Range**: • **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	**Definition**: Image size, in KB. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Image status. **Range**: • **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	**Definition**: Build information during image saving. **Range**: N/A
support_res_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
swr_path	String	**Definition**: SWR image path. **Range**: N/A
tag	String	**Definition**: Image tag. **Range**: N/A
type	String	**Definition**: Image type. **Range**: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved
update_at	Long	**Definition**: Time (UTC) when the image was last updated, accurate to millisecond. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
visibility	String	**Definition**: Image visibility. **Range**: • **PRIVATE**: private image • **PUBLIC**: All users can perform read-only operations based on **image_id**.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
flavor_type	String	**Definition**: Resource type of the image. **Range**: • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip

Table 4-34 Lease

Parameter	Type	Description
create_at	Long	**Definition**: UTC time when the instance is created, accurate to millisecond. **Range**: N/A
duration	Long	**Definition**: Instance runtime, which is calculated based on the instance creation time. If the instance creation time plus the runtime is greater than the current time, the system automatically stops the instance. **Range**: N/A
enable	Boolean	**Definition**: Specifies whether to enable auto stop. **Range**: Boolean • **true**: Auto stop is enabled. • **false**: Auto stop is disabled.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Auto stop type. **Range**: • **TIMING**: auto stop • **IDLE**: stop when idle
update_at	Long	**Definition**: Time (UTC) when the instance is last updated (excluding liveness check), accurate to millisecond. **Range**: N/A

Table 4-35 Pool

Parameter	Type	Description
id	String	**Definition**: Dedicated resource pool ID. **Range**: N/A
name	String	**Definition**: Dedicated resource pool name. **Range**: N/A

Table 4-36 VolumeRes

Parameter	Type	Description
capacity	Integer	**Definition**: Storage capacity. **Range**: The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4,096 GB.
category	String	**Definition**: Supported storage type. For details about the differences between the storage types, see **Selecting Storage in DevEnviron**] (tag:hk). **Range**: • **SFS** • **EVS** • **OBS** • **OBSFS**: parallel file system • **EFS**: SFS Turbo

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
mount_path	String	**Definition**: Directory of the notebook instance to which the storage is mounted. Currently, the directory is **/home/ma-user/work/**. **Range**: N/A
ownership	String	**Definition**: Resource owner. **Range**: • **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	**Definition**: EVS disk capacity expansion status, which is **RESIZING** during capacity expansion and does not affect the instance. **Range**: N/A

Table 4-37 user

Parameter	Type	Description
domain	**domain** object	**Description**: Domain information of the account.
id	String	**Definition**: User ID. For details, see **Obtaining a Username and ID**. **Range**: N/A.
name	String	**Definition**: Username. **Range**: N/A.

Table 4-38 domain

Parameter	Type	Description
id	String	**Definition**: Account ID. **Range**: N/A
name	String	**Definition**: Account name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-39 AffinityType

Parameter	Type	Description
required_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Strong affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory.
preferred_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Weak affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory, and **weight** is optional.

Table 4-40 AffinityRule

Parameter	Type	Description
key	String	**Definition**: Affinity description. Both default labels and custom labels are supported. For details about the default node labels, see **Managing Node Labels**. **Constraints**: Labels are key-value pairs. A valid label key consists of two segments: prefix (optional) and name, which are separated by a slash (/). **Range**: The name segment is mandatory and must be less than or equal to 63 characters. It must start and end with a letter or digit and only contain letters, digits, hyphens (-), underscores (_), and periods (.). The prefix is optional. If specified, the prefix must be a DNS subdomain: a series of DNS labels separated by periods (.), with a total of no more than 253 characters, followed by a slash (/). For details, see **Labels and Selectors**. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
operator	String	**Definition**: Operator. **Constraints**: N/A **Range**: The following operators are supported: In: The label of the affinity or anti-affinity object is in the label value list (values field). NotIn: The label of the affinity or anti-affinity object is not in the label value list (values field). Exists: The affinity or anti-affinity object has a specified label key. DoesNotExist: The affinity or anti-affinity object does not have a specified label key. Gt: The label value of the scheduling node exceeds what is listed (string comparison). Lt: The label value of the scheduling node is under what is listed (string comparison). **Default Value**: N/A.
values	Array of strings	**Definition**: When configuring node affinity, enter the value of the node label. Constraints: The value must be 63 characters or fewer (can be empty). If the label value is not empty, the value must start and end with a letter or digit and can contain hyphens (-), underscores (_), periods (.), letters, or digits. For details, see **Labels and Selectors**.
weight	Integer	Weight value of the weak affinity node. The value ranges from 0 to 100. The value is **NULL** for strong affinity and optional for weak affinity.

Table 4-41 RunUserInfo

Parameter	Type	Description
uid	Integer	User ID of the container startup user.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
gid	Integer	Group ID of the container startup user.
user_name	String	Username of the container startup user.
group_name	String	Group name of the container startup user.

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.xxxxx.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.xxxxx.com/atelier/notebook2.0-mul-kernel-cpu-cp36:3.3.2-release_v1",
      "type" : "BUILD_IN"
    },
    "lease" : {
      "create_at" : 1638841744515,
      "duration" : 3600000,
      "enable" : true,
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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 All Notebook Instances

Function

This API is used to obtain information about all created notebook instances.

This API applies to the following scenarios: When you need to know the status and resource usage of all notebook instances in the current system or manage multiple notebook instances, you can use this API to obtain related information. Before using this API, ensure that you have created a notebook instance and have the query permission. After the API is successfully called, the system returns the list of all notebook instances. Details such as the instance ID, status, and creation time can be obtained. If you do not have the access permission, the API will return an error message.

Constraints

No constraints

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/notebooks/all

Table 4-42 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 4-43 Query Parameters

Parameter	Mandatory	Type	Description
feature	No	String	**Definition**: Instance type **Constraints**: N/A **Range**: Enums: • **DEFAULT**: free CodeLab instance. Each user can create only one. • **NOTEBOOK**: billed instance **Default Value**: **NOTEBOOK**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
limit	No	Integer	**Definition**: Number of instances displayed on each page **Constraints**: N/A **Range**: [10,20,50] **Default Value**: **10**
name	No	String	**Definition**: Instance name. Fuzzy match is supported. **Constraints**: N/A **Range**: The value can contain a maximum of 128 characters. Letters, digits, hyphens (-), and underscores (_) are allowed. **Default Value**: N/A
pool_id	No	String	**Definition**: ID of a dedicated resource pool. For details about how to obtain the ID, see **Obtaining Resource Pools**. **Constraints**: N/A **Range**: This value contains 4 to 64 characters. Lowercase letters, digits, and hyphens (-) are allowed. It must start with a lowercase letter and end with a lowercase letter or digit. **Default Value**: N/A
offset	No	Integer	**Definition**: Start offset of the records on each page **Constraints**: N/A **Range**: N/A **Default Value**: **0**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
owner	No	String	**Definition**: User ID of the instance. 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. **Constraints**: N/A **Range**: This value contains 32 characters. Lowercase letters and digits are allowed. **Default Value**: N/A
sort_dir	No	String	**Definition**: Instance sorting mode **Constraints**: N/A **Range**: Enums: • **ASC**: ascending order • **DESC**: descending order **Default Value**: **DESC**
sort_key	No	String	**Definition**: Sorting field. Separate multiple fields with commas (,). **Constraints**: N/A **Range**: The value can contain a maximum of 128 characters. Letters, digits, hyphens (-), underscores (_), and commas (,) are allowed. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
status	No	String	**Definition**: Instance status **Constraints**: N/A **Range**: Enums: • **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. **Default Value**: N/A
workspaceId	No	String	**Definition**: Workspace ID. For details about how to obtain the value, see **Obtaining Workspaces**. If no workspace is created, the default value is **0**. If a workspace is created and used, use the actual value. **Constraints**: N/A **Range**: N/A **Default Value**: **0**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

None

Response Parameters

Status code: 200

Table 4-44 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. **Range**: Positive integers
data	Array of **NotebookResp** objects	**Definition**: Notebook instance data.
pages	Integer	**Definition**: Total number of pages. **Range**: Positive integers
size	Integer	**Definition**: Number of records on each page. **Range**: Positive integers
total	Long	**Definition**: Total number of records. **Range**: Non-negative integers

Table 4-45 NotebookResp

Parameter	Type	Description
action_progress	Array of **JobProgress** objects	**Definition**: Initialization progress of the instance.
description	String	**Definition**: Instance description. **Range**: N/A
endpoints	Array of **EndpointsRes** objects	**Definition**: Local IDE (such as PyCharm and VS Code) or SSH client for remotely accessing a notebook instance through SSH.
fail_reason	String	**Definition**: Instance failure cause. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
flavor	String	**Definition**: Instance flavor. 1. If you select a system specification, the returned value is the system specification code. 2. If you select a custom specification when creating an instance, this parameter is always returned as **custom.flavor.spec.code**. **Range**: N/A.
custom_spec	**NotebookCustomSpecRep** object	**Definition**: Custom specifications of an instance. This parameter is returned only when a CPU or GPU dedicated pool is used and the custom specifications are used. **Range**: N/A.
id	String	**Definition**: Instance ID. **Range**: N/A
image	**Image** object	**Definition**: Instance image information.
lease	**Lease** object	**Definition**: Countdown to auto stop of an instance.
name	String	**Definition**: Instance name. **Range**: N/A
pool	**Pool** object	**Definition**: Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. **Range**: • **INIT**: The instance is being initialized. • **CREATING**: The instance is being created. • **STARTING**: The instance is being started. • **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	**Description**: Token used for notebook authentication. **Range**: N/A
url	String	**Definition**: URL for accessing the instance. **Range**: N/A
volume	**VolumeRes** object	**Definition**: Instance storage information.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
feature	String	**Definition**: Instance type. **Range**: • **DEFAULT**: free CodeLab instance. Each user can create only one. • **NOTEBOOK**: billed instance.
billing_items	Array of strings	**Definition**: Billing resource type. **Range**: • **STORAGE**: Storage resource billing • **COMPUTE**: Computing resources billing • **ALL**: All billing types
user	**user** object	**Description**: Account information.
affinity	**AffinityType** object	**Definition**: Affinity information.
run_user	**RunUserInfo** object	**Definition**: Information about the startup user and startup user group.

Table 4-46 JobProgress

Parameter	Type	Description
notebook_id	String	**Definition**: Instance ID. **Range**: N/A
status	String	**Definition**: Job status in a specified step. **Range**: • **WAITING**: The job is awaiting. • **PROCESSING**: The job is being processed. • **FAILED**: The job failed. • **COMPLETED**: The job is complete.
step	Integer	**Definition**: Job step. **Range**: • **1**: Prepare storage. • **2**: Prepare compute resources. • **3**: Configure the network. • **4**: Initialize the instance.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
step_description	String	**Definition**: Job description in a specified step. **Range**: N/A

Table 4-47 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-48 NotebookCustomSpecRep

Parameter	Type	Description
gpu	Float	**Definition**: This parameter is mandatory for GPU dedicated pools. It indicates the number of GPUs requested for an instance. If no GPU needs to be scheduled, set this parameter to **0**. **Constraints**: This field is not available in the CPU dedicated pool scenario.
gpu_type	String	**Definition**: This parameter is one of the response parameters for custom specifications in the GPU dedicated pool scenario. It indicates the type of GPU accelerator cards requested for an instance. **Constraints**: This field is not available in the CPU dedicated pool scenario.
cpu	Float	**Definition**: This parameter is mandatory for CPU and GPU dedicated pools. It indicates the number of CPU cores requested for an instance.
memory	Float	**Definition**: Memory size requested for an instance.
arch	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the CPU architecture of the custom specifications requested for an instance. **Constraints**: The value can be **x86_64** or **AARCH64**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
category	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the type of the custom specifications requested for an instance. **Constraints**: The value can be **CPU** or**GPU**.

Table 4-49 Image

Parameter	Type	Description
arch	String	**Definition**: Processor architecture supported by the image. **Range** • **X86_64**: x86 architecture • **AARCH64**: Arm architecture
create_at	Long	**Definition**: UTC time when the image is created, accurate to millisecond. **Range**: N/A
description	String	**Definition**: Image description. **Range**: Up to 512 characters
dev_services	Array of strings	**Definition**: Services supported by the image. **Range**: • **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	**Definition**: ID of the image used for creating notebook instances. The ID is in Universally Unique Identifier (UUID) format. For details, see **Querying Supported Images**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
name	String	**Definition**: Image name. **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed.
namespace	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Range**: N/A
origin	String	**Definition**: Image source. **Range**: • **CUSTOMIZE**: custom image • **IMAGE_SAVE**: image saved by a notebook instance
resource_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
service_type	String	**Definition**: Supported image types. **Range**: • **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	**Definition**: Image size, in KB. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Image status. **Range**: • **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	**Definition**: Build information during image saving. **Range**: N/A
support_res_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
swr_path	String	**Definition**: SWR image path. **Range**: N/A
tag	String	**Definition**: Image tag. **Range**: N/A
type	String	**Definition**: Image type. **Range**: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved
update_at	Long	**Definition**: Time (UTC) when the image was last updated, accurate to millisecond. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
visibility	String	**Definition**: Image visibility. **Range**: • **PRIVATE**: private image • **PUBLIC**: All users can perform read-only operations based on **image_id**.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
flavor_type	String	**Definition**: Resource type of the image. **Range**: • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip

Table 4-50 Lease

Parameter	Type	Description
create_at	Long	**Definition**: UTC time when the instance is created, accurate to millisecond. **Range**: N/A
duration	Long	**Definition**: Instance runtime, which is calculated based on the instance creation time. If the instance creation time plus the runtime is greater than the current time, the system automatically stops the instance. **Range**: N/A
enable	Boolean	**Definition**: Specifies whether to enable auto stop. **Range**: Boolean • **true**: Auto stop is enabled. • **false**: Auto stop is disabled.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Auto stop type. **Range**: • **TIMING**: auto stop • **IDLE**: stop when idle
update_at	Long	**Definition**: Time (UTC) when the instance is last updated (excluding liveness check), accurate to millisecond. **Range**: N/A

Table 4-51 Pool

Parameter	Type	Description
id	String	**Definition**: Dedicated resource pool ID. **Range**: N/A
name	String	**Definition**: Dedicated resource pool name. **Range**: N/A

Table 4-52 VolumeRes

Parameter	Type	Description
capacity	Integer	**Definition**: Storage capacity. **Range**: The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4,096 GB.
category	String	**Definition**: Supported storage type. For details about the differences between the storage types, see **Selecting Storage in DevEnviron**] (tag:hk). **Range**: • **SFS** • **EVS** • **OBS** • **OBSFS**: parallel file system • **EFS**: SFS Turbo

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
mount_path	String	**Definition**: Directory of the notebook instance to which the storage is mounted. Currently, the directory is **/home/ma-user/work/**. **Range**: N/A
ownership	String	**Definition**: Resource owner. **Range**: • **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	**Definition**: EVS disk capacity expansion status, which is **RESIZING** during capacity expansion and does not affect the instance. **Range**: N/A

Table 4-53 user

Parameter	Type	Description
domain	**domain** object	**Description**: Domain information of the account.
id	String	**Definition**: User ID. For details, see **Obtaining a Username and ID**. **Range**: N/A.
name	String	**Definition**: Username. **Range**: N/A.

Table 4-54 domain

Parameter	Type	Description
id	String	**Definition**: Account ID. **Range**: N/A
name	String	**Definition**: Account name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-55 AffinityType

Parameter	Type	Description
required_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Strong affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory.
preferred_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Weak affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory, and **weight** is optional.

Table 4-56 AffinityRule

Parameter	Type	Description
key	String	**Definition**: Affinity description. Both default labels and custom labels are supported. For details about the default node labels, see **Managing Node Labels**. **Constraints**: Labels are key-value pairs. A valid label key consists of two segments: prefix (optional) and name, which are separated by a slash (/). **Range**: The name segment is mandatory and must be less than or equal to 63 characters. It must start and end with a letter or digit and only contain letters, digits, hyphens (-), underscores (_), and periods (.). The prefix is optional. If specified, the prefix must be a DNS subdomain: a series of DNS labels separated by periods (.), with a total of no more than 253 characters, followed by a slash (/). For details, see **Labels and Selectors**. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
operator	String	**Definition**: Operator. **Constraints**: N/A **Range**: The following operators are supported: In: The label of the affinity or anti-affinity object is in the label value list (values field). NotIn: The label of the affinity or anti-affinity object is not in the label value list (values field). Exists: The affinity or anti-affinity object has a specified label key. DoesNotExist: The affinity or anti-affinity object does not have a specified label key. Gt: The label value of the scheduling node exceeds what is listed (string comparison). Lt: The label value of the scheduling node is under what is listed (string comparison). **Default Value**: N/A.
values	Array of strings	**Definition**: When configuring node affinity, enter the value of the node label. Constraints: The value must be 63 characters or fewer (can be empty). If the label value is not empty, the value must start and end with a letter or digit and can contain hyphens (-), underscores (_), periods (.), letters, or digits. For details, see **Labels and Selectors**.
weight	Integer	Weight value of the weak affinity node. The value ranges from 0 to 100. The value is **NULL** for strong affinity and optional for weak affinity.

Table 4-57 RunUserInfo

Parameter	Type	Description
uid	Integer	User ID of the container startup user.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
gid	Integer	Group ID of the container startup user.
user_name	String	Username of the container startup user.
group_name	String	Group name of the container startup user.

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.xxxxx.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.xxxxx.com/atelier/notebook2.0-mul-kernel-cpu-cp36:3.3.2-release_v1",
      "type" : "BUILD_IN"
    },
    "lease" : {
      "create_at" : 1638841744515,
      "duration" : 3600000,
      "enable" : true,
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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**.

4.4 Querying Details of a Notebook Instance

Function

This API is used to obtain the details of a specified notebook instance.

This API applies to the following scenario: When you need to view the detailed configuration and status of a specified notebook instance or obtain the access link, you can use this API to obtain related information. Before using this API, ensure that a notebook instance exists and you have the query permission. After the API is successfully called, the system returns the instance ID, name, specifications, image, status, and URL for access the instance. If the instance does not exist or you do not have the access permission, the API will return an error message.

Constraints

No constraints

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:notebook:get	Read	notebook *	g:ResourceTag/<tag-key>	-	-
		-	• g:EnterpriseProjectId • modelarts:poolType • modelarts:poolId		

URI

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

Table 4-58 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Notebook instance ID. The ID is in the format of a Universally Unique Identifier (UUID). For details about how to obtain the ID, see **Querying Notebook Instances**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-59 Response body parameters

Parameter	Type	Description
action_progress	Array of **JobProgress** objects	**Definition**: Initialization progress of the instance.
description	String	**Definition**: Instance description. **Range**: N/A
endpoints	Array of **EndpointsRes** objects	**Definition**: Local IDE (such as PyCharm and VS Code) or SSH client for remotely accessing a notebook instance through SSH.
fail_reason	String	**Definition**: Instance failure cause. **Range**: N/A
flavor	String	**Definition**: Instance flavor. 1. If you select a system specification, the returned value is the system specification code. 2. If you select a custom specification when creating an instance, this parameter is always returned as **custom.flavor.spec.code**. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
custom_spec	**NotebookCustomSpecRep** object	**Definition**: Custom specifications of an instance. This parameter is returned only when a CPU or GPU dedicated pool is used and the custom specifications are used. **Range**: N/A.
id	String	**Definition**: Instance ID. **Range**: N/A
image	**Image** object	**Definition**: Instance image information.
lease	**Lease** object	**Definition**: Countdown to auto stop of an instance.
name	String	**Definition**: Instance name. **Range**: N/A
pool	**Pool** object	**Definition**: Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. **Range**: • **INIT**: The instance is being initialized. • **CREATING**: The instance is being created. • **STARTING**: The instance is being started. • **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	**Description**: Token used for notebook authentication. **Range**: N/A
url	String	**Definition**: URL for accessing the instance. **Range**: N/A
volume	**VolumeRes** object	**Definition**: Instance storage information.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
feature	String	**Definition**: Instance type. **Range**: • **DEFAULT**: free CodeLab instance. Each user can create only one. • **NOTEBOOK**: billed instance.
billing_items	Array of strings	**Definition**: Billing resource type. **Range**: • **STORAGE**: Storage resource billing • **COMPUTE**: Computing resources billing • **ALL**: All billing types
user	**user** object	**Description**: Account information.
affinity	**AffinityType** object	**Definition**: Affinity information.
run_user	**RunUserInfo** object	**Definition**: Information about the startup user and startup user group.

Table 4-60 JobProgress

Parameter	Type	Description
notebook_id	String	**Definition**: Instance ID. **Range**: N/A
status	String	**Definition**: Job status in a specified step. **Range**: • **WAITING**: The job is awaiting. • **PROCESSING**: The job is being processed. • **FAILED**: The job failed. • **COMPLETED**: The job is complete.
step	Integer	**Definition**: Job step. **Range**: • **1**: Prepare storage. • **2**: Prepare compute resources. • **3**: Configure the network. • **4**: Initialize the instance.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
step_description	String	**Definition**: Job description in a specified step. **Range**: N/A

Table 4-61 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-62 NotebookCustomSpecRep

Parameter	Type	Description
gpu	Float	**Definition**: This parameter is mandatory for GPU dedicated pools. It indicates the number of GPUs requested for an instance. If no GPU needs to be scheduled, set this parameter to **0**. **Constraints**: This field is not available in the CPU dedicated pool scenario.
gpu_type	String	**Definition**: This parameter is one of the response parameters for custom specifications in the GPU dedicated pool scenario. It indicates the type of GPU accelerator cards requested for an instance. **Constraints**: This field is not available in the CPU dedicated pool scenario.
cpu	Float	**Definition**: This parameter is mandatory for CPU and GPU dedicated pools. It indicates the number of CPU cores requested for an instance.
memory	Float	**Definition**: Memory size requested for an instance.
arch	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the CPU architecture of the custom specifications requested for an instance. **Constraints**: The value can be **x86_64** or **AARCH64**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
category	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the type of the custom specifications requested for an instance. **Constraints**: The value can be **CPU** or**GPU**.

Table 4-63 Image

Parameter	Type	Description
arch	String	**Definition**: Processor architecture supported by the image. **Range** • **X86_64**: x86 architecture • **AARCH64**: Arm architecture
create_at	Long	**Definition**: UTC time when the image is created, accurate to millisecond. **Range**: N/A
description	String	**Definition**: Image description. **Range**: Up to 512 characters
dev_services	Array of strings	**Definition**: Services supported by the image. **Range**: • **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	**Definition**: ID of the image used for creating notebook instances. The ID is in Universally Unique Identifier (UUID) format. For details, see **Querying Supported Images**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
name	String	**Definition**: Image name. **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed.
namespace	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Range**: N/A
origin	String	**Definition**: Image source. **Range**: • **CUSTOMIZE**: custom image • **IMAGE_SAVE**: image saved by a notebook instance
resource_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
service_type	String	**Definition**: Supported image types. **Range**: • **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	**Definition**: Image size, in KB. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Image status. **Range**: • **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	**Definition**: Build information during image saving. **Range**: N/A
support_res_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
swr_path	String	**Definition**: SWR image path. **Range**: N/A
tag	String	**Definition**: Image tag. **Range**: N/A
type	String	**Definition**: Image type. **Range**: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved
update_at	Long	**Definition**: Time (UTC) when the image was last updated, accurate to millisecond. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
visibility	String	**Definition**: Image visibility. **Range**: • **PRIVATE**: private image • **PUBLIC**: All users can perform read-only operations based on **image_id**.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
flavor_type	String	**Definition**: Resource type of the image. **Range**: • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip

Table 4-64 Lease

Parameter	Type	Description
create_at	Long	**Definition**: UTC time when the instance is created, accurate to millisecond. **Range**: N/A
duration	Long	**Definition**: Instance runtime, which is calculated based on the instance creation time. If the instance creation time plus the runtime is greater than the current time, the system automatically stops the instance. **Range**: N/A
enable	Boolean	**Definition**: Specifies whether to enable auto stop. **Range**: Boolean • **true**: Auto stop is enabled. • **false**: Auto stop is disabled.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Auto stop type. **Range**: • **TIMING**: auto stop • **IDLE**: stop when idle
update_at	Long	**Definition**: Time (UTC) when the instance is last updated (excluding liveness check), accurate to millisecond. **Range**: N/A

Table 4-65 Pool

Parameter	Type	Description
id	String	**Definition**: Dedicated resource pool ID. **Range**: N/A
name	String	**Definition**: Dedicated resource pool name. **Range**: N/A

Table 4-66 VolumeRes

Parameter	Type	Description
capacity	Integer	**Definition**: Storage capacity. **Range**: The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4,096 GB.
category	String	**Definition**: Supported storage type. For details about the differences between the storage types, see **Selecting Storage in DevEnviron**] (tag:hk). **Range**: • **SFS** • **EVS** • **OBS** • **OBSFS**: parallel file system • **EFS**: SFS Turbo

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
mount_path	String	**Definition**: Directory of the notebook instance to which the storage is mounted. Currently, the directory is **/home/ma-user/work/**. **Range**: N/A
ownership	String	**Definition**: Resource owner. **Range**: • **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	**Definition**: EVS disk capacity expansion status, which is **RESIZING** during capacity expansion and does not affect the instance. **Range**: N/A

Table 4-67 user

Parameter	Type	Description
domain	**domain** object	**Description**: Domain information of the account.
id	String	**Definition**: User ID. For details, see **Obtaining a Username and ID**. **Range**: N/A.
name	String	**Definition**: Username. **Range**: N/A.

Table 4-68 domain

Parameter	Type	Description
id	String	**Definition**: Account ID. **Range**: N/A
name	String	**Definition**: Account name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-69 AffinityType

Parameter	Type	Description
required_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Strong affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory.
preferred_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Weak affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory, and **weight** is optional.

Table 4-70 AffinityRule

Parameter	Type	Description
key	String	**Definition**: Affinity description. Both default labels and custom labels are supported. For details about the default node labels, see **Managing Node Labels**. **Constraints**: Labels are key-value pairs. A valid label key consists of two segments: prefix (optional) and name, which are separated by a slash (/). **Range**: The name segment is mandatory and must be less than or equal to 63 characters. It must start and end with a letter or digit and only contain letters, digits, hyphens (-), underscores (_), and periods (.). The prefix is optional. If specified, the prefix must be a DNS subdomain: a series of DNS labels separated by periods (.), with a total of no more than 253 characters, followed by a slash (/). For details, see **Labels and Selectors**. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
operator	String	**Definition**: Operator. **Constraints**: N/A **Range**: The following operators are supported: In: The label of the affinity or anti-affinity object is in the label value list (values field). NotIn: The label of the affinity or anti-affinity object is not in the label value list (values field). Exists: The affinity or anti-affinity object has a specified label key. DoesNotExist: The affinity or anti-affinity object does not have a specified label key. Gt: The label value of the scheduling node exceeds what is listed (string comparison). Lt: The label value of the scheduling node is under what is listed (string comparison). **Default Value**: N/A.
values	Array of strings	**Definition**: When configuring node affinity, enter the value of the node label. Constraints: The value must be 63 characters or fewer (can be empty). If the label value is not empty, the value must start and end with a letter or digit and can contain hyphens (-), underscores (_), periods (.), letters, or digits. For details, see **Labels and Selectors**.
weight	Integer	Weight value of the weak affinity node. The value ranges from 0 to 100. The value is **NULL** for strong affinity and optional for weak affinity.

Table 4-71 RunUserInfo

Parameter	Type	Description
uid	Integer	User ID of the container startup user.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
gid	Integer	Group ID of the container startup user.
user_name	String	Username of the container startup user.
group_name	String	Group name of the container startup user.

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.xxxxx.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-xxxxx.xxxxx.com/f9937afa-631e-4a8f-a8f7-3b6c800585f0/lab",
  "workspace_id" : "0"
}
```

Status Codes

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

4.5 Updating a Notebook Instance

Function

This API is used to modify the instance configurations, including its name, description, specifications, and image.

This API applies to the following scenario: When you need to modify the configuration of a notebook instance to adapt to new requirements, you can use this API to update the instance details. Before using this API, ensure that you have logged in to the system and have the permission to perform operations on the target notebook instance. In addition, the notebook instance must have been stopped. After this API is called, the system updates the configuration of the specified notebook instance. If you do not have the permission to perform operations on the specified notebook instance or the notebook instance has not been stopped, the API will return an error message. If the specified notebook instance is not found or the modification to the parameters is invalid, the API will return an error message.

Constraints

None

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:notebook:update	Write	notebook *	g:ResourceTag/<tag-key>	-	-

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
		-	• g:EnterpriseProjectId • modelarts:poolType • modelarts:poolId		

URI

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

Table 4-72 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Notebook instance ID. The ID is in the format of a Universally Unique Identifier (UUID). For details about how to obtain the ID, see **Querying Notebook Instances**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 4-73 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	**Definition**: Instance description can be updated. **Constraints**: N/A **Range**: The value can contain up to 512 characters and cannot contain special characters (&<>"'/). **Default Value**: N/A
endpoints	No	Array of **EndpointsReq** objects	**Definition**: Only local IDE (such as PyCharm and VS Code) or SSH client can be used to access a notebook instance. **Constraints**: Configurations required for remotely accessing a notebook instance through SSH only on the local IDE (such as PyCharm and VS Code) or SSH client.
flavor	No	String	**Definition**: The machine specifications of the notebook instance can be changed. Specifications that can be changed. You can call the API in **Querying Flavors Available for a Notebook Instance** to obtain them. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
custom_spec	No	**NotebookCustomSpec** object	**Definition**: Custom specifications of an instance. This parameter and the **flavor** field cannot be set at the same time. **Constraints**: This is only supported in CPU or GPU dedicated pool scenarios based on the specific node specifications of the dedicated pool.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
image_id	No	String	**Definition**: Image ID can be updated. For details, see **Querying Supported Images**. **Constraints**: N/A **Range**: Valid image IDs obtained by calling APIs in **Querying Supported Images**. **Default Value**: N/A
name	No	String	**Definition**: Instance name can be updated. **Constraints**: N/A **Range**: The value can contain a maximum of 128 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. The name can be repeated. **Default Value**: N/A
storage_new_size	No	Integer	**Definition**: EVS instance capacity that can be expanded dynamically, in GB. Only scale-out is supported. **Constraints**: N/A **Range**: The capacity can be expanded to at most 4,096 GB. **Default Value**: N/A
hooks	No	**CustomHooks** object	**Definition**: The instance startup script can be updated. **Constraints**: N/A
affinity	No	**AffinityType** object	**Definition**: Affinity settings can be updated. **Constraints**: This parameter can be updated only when the instance is stopped or fails to be started.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-74 EndpointsReq

Parameter	Mandatory	Type	Description
allowed_access_ips	No	Array of strings	**Definition**: Public IP addresses that can remotely access the notebook instance. A maximum of five public IP addresses are supported. **Constraints**: N/A
service	No	String	**Definition**: Supported services. **Constraints**: N/A **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH. **Default Value**: N/A
key_pair_names	No	Array of strings	**Definition**: Name of the SSH key pair, which can be created and viewed on the **Key Pair** page of the Elastic Cloud Server (ECS) console. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-75 NotebookCustomSpec

Parameter	Mandatory	Type	Description
gpu	No	Float	**Definition**: This parameter is mandatory for GPU dedicated pools. It indicates the number of GPUs requested for an instance. If no GPU needs to be scheduled, set this parameter to **0**. **Constraints**: Do not set this parameter in the CPU dedicated pool scenario. Unit: PU. The minimum value is **0**. The maximum value depends on the specifications of a single node in the GPU dedicated pool.
cpu	Yes	Float	**Definition**: This parameter is mandatory for CPU and GPU dedicated pools. It indicates the number of CPU cores requested for an instance. **Constraints**: Unit: core. The value must be greater than 0.3 cores. The maximum value depends on the specifications of a single node in the dedicated pool.
memory	Yes	Float	**Definition**: This parameter is mandatory in the CPU/GPU dedicated pool scenario. It indicates the memory size requested for an instance. **Constraints**: Unit: MiB. The value is a positive integer greater than 512 MiB. The maximum value depends on the specifications of a single node in the dedicated pool.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-76 CustomHooks

Parameter	Mandatory	Type	Description
container_hooks	No	**ContainerHooks** object	**Definition**: Container hook configuration. **Constraints**: N/A

Table 4-77 ContainerHooks

Parameter	Mandatory	Type	Description
post_start	No	**Config** object	**Definition**: Script configuration after the service is started. **Constraints**: N/A
pre_start	No	**Config** object	**Definition**: Script configuration before the service is started. **Constraints**: N/A

Table 4-78 Config

Parameter	Mandatory	Type	Description
script	No	String	**Definition**: Custom script (Base64 encoding) or absolute path of a script. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
type	No	String	**Definition**: Script type. **Constraints**: N/A **Range**: • **COMMAND**: The script content (Base64-encoded) must be specified. • **SCRIPT**: The script path must be specified. **Default Value**: SCRIPT

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-79 AffinityType

Parameter	Mandatory	Type	Description
required_during_scheduling_ignored_during_execution	No	Array of **AffinityRule** objects	**Definition**: Strong affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory.
preferred_during_scheduling_ignored_during_execution	No	Array of **AffinityRule** objects	**Definition**: Weak affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory, and **weight** is optional.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-80 AffinityRule

Parameter	Mandatory	Type	Description
key	No	String	**Definition**: Affinity description. Both default labels and custom labels are supported. For details about the default node labels, see **Managing Node Labels**. **Constraints**: Labels are key-value pairs. A valid label key consists of two segments: prefix (optional) and name, which are separated by a slash (/). **Range**: The name segment is mandatory and must be less than or equal to 63 characters. It must start and end with a letter or digit and only contain letters, digits, hyphens (-), underscores (_), and periods (.). The prefix is optional. If specified, the prefix must be a DNS subdomain: a series of DNS labels separated by periods (.), with a total of no more than 253 characters, followed by a slash (/). For details, see **Labels and Selectors**. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
operator	No	String	**Definition**: Operator. **Constraints**: N/A **Range**: The following operators are supported: In: The label of the affinity or anti-affinity object is in the label value list (values field). NotIn: The label of the affinity or anti-affinity object is not in the label value list (values field). Exists: The affinity or anti-affinity object has a specified label key. DoesNotExist: The affinity or anti-affinity object does not have a specified label key. Gt: The label value of the scheduling node exceeds what is listed (string comparison). Lt: The label value of the scheduling node is under what is listed (string comparison). **Default Value**: N/A.
values	No	Array of strings	**Definition**: When configuring node affinity, enter the value of the node label. Constraints: The value must be 63 characters or fewer (can be empty). If the label value is not empty, the value must start and end with a letter or digit and can contain hyphens (-), underscores (_), periods (.), letters, or digits. For details, see **Labels and Selectors**.
weight	No	Integer	Weight value of the weak affinity node. The value ranges from 0 to 100. The value is **NULL** for strong affinity and optional for weak affinity.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 4-81 Response body parameters

Parameter	Type	Description
action_progress	Array of **JobProgress** objects	**Definition**: Initialization progress of the instance.
description	String	**Definition**: Instance description. **Range**: N/A
endpoints	Array of **EndpointsRes** objects	**Definition**: Local IDE (such as PyCharm and VS Code) or SSH client for remotely accessing a notebook instance through SSH.
fail_reason	String	**Definition**: Instance failure cause. **Range**: N/A
flavor	String	**Definition**: Instance flavor. 1. If you select a system specification, the returned value is the system specification code. 2. If you select a custom specification when creating an instance, this parameter is always returned as **custom.flavor.spec.code**. **Range**: N/A.
custom_spec	**NotebookCustomSpecRep** object	**Definition**: Custom specifications of an instance. This parameter is returned only when a CPU or GPU dedicated pool is used and the custom specifications are used. **Range**: N/A.
id	String	**Definition**: Instance ID. **Range**: N/A
image	**Image** object	**Definition**: Instance image information.
lease	**Lease** object	**Definition**: Countdown to auto stop of an instance.
name	String	**Definition**: Instance name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
pool	**Pool** object	**Definition**: Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.
status	String	**Definition**: Instance status. **Range**: • **INIT**: The instance is being initialized. • **CREATING**: The instance is being created. • **STARTING**: The instance is being started. • **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	**Description**: Token used for notebook authentication. **Range**: N/A
url	String	**Definition**: URL for accessing the instance. **Range**: N/A
volume	**VolumeRes** object	**Definition**: Instance storage information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
feature	String	**Definition**: Instance type. **Range**: • **DEFAULT**: free CodeLab instance. Each user can create only one. • **NOTEBOOK**: billed instance.
billing_items	Array of strings	**Definition**: Billing resource type. **Range**: • **STORAGE**: Storage resource billing • **COMPUTE**: Computing resources billing • **ALL**: All billing types
user	**user** object	**Description**: Account information.
affinity	**AffinityType** object	**Definition**: Affinity information.
run_user	**RunUserInfo** object	**Definition**: Information about the startup user and startup user group.

Table 4-82 JobProgress

Parameter	Type	Description
notebook_id	String	**Definition**: Instance ID. **Range**: N/A
status	String	**Definition**: Job status in a specified step. **Range**: • **WAITING**: The job is awaiting. • **PROCESSING**: The job is being processed. • **FAILED**: The job failed. • **COMPLETED**: The job is complete.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
step	Integer	**Definition**: Job step. **Range**: • **1**: Prepare storage. • **2**: Prepare compute resources. • **3**: Configure the network. • **4**: Initialize the instance.
step_description	String	**Definition**: Job description in a specified step. **Range**: N/A

Table 4-83 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 4-84 NotebookCustomSpecRep

Parameter	Type	Description
gpu	Float	**Definition**: This parameter is mandatory for GPU dedicated pools. It indicates the number of GPUs requested for an instance. If no GPU needs to be scheduled, set this parameter to **0**. **Constraints**: This field is not available in the CPU dedicated pool scenario.
gpu_type	String	**Definition**: This parameter is one of the response parameters for custom specifications in the GPU dedicated pool scenario. It indicates the type of GPU accelerator cards requested for an instance. **Constraints**: This field is not available in the CPU dedicated pool scenario.
cpu	Float	**Definition**: This parameter is mandatory for CPU and GPU dedicated pools. It indicates the number of CPU cores requested for an instance.
memory	Float	**Definition**: Memory size requested for an instance.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
arch	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the CPU architecture of the custom specifications requested for an instance. **Constraints**: The value can be **x86_64** or **AARCH64**.
category	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the type of the custom specifications requested for an instance. **Constraints**: The value can be **CPU** or**GPU**.

Table 4-85 Image

Parameter	Type	Description
arch	String	**Definition**: Processor architecture supported by the image. **Range** • **X86_64**: x86 architecture • **AARCH64**: Arm architecture
create_at	Long	**Definition**: UTC time when the image is created, accurate to millisecond. **Range**: N/A
description	String	**Definition**: Image description. **Range**: Up to 512 characters
dev_services	Array of strings	**Definition**: Services supported by the image. **Range**: • **NOTEBOOK**: You can access a notebook instance using HTTPS. • **SSH**: You can remotely access a notebook instance from a local IDE through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
id	String	**Definition**: ID of the image used for creating notebook instances. The ID is in Universally Unique Identifier (UUID) format. For details, see **Querying Supported Images**. **Range**: N/A
name	String	**Definition**: Image name. **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed.
namespace	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Range**: N/A
origin	String	**Definition**: Image source. **Range**: • **CUSTOMIZE**: custom image • **IMAGE_SAVE**: image saved by a notebook instance
resource_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
service_type	String	**Definition**: Supported image types. **Range**: • **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	**Definition**: Image size, in KB. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Image status. **Range**: • **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	**Definition**: Build information during image saving. **Range**: N/A
support_res_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
swr_path	String	**Definition**: SWR image path. **Range**: N/A
tag	String	**Definition**: Image tag. **Range**: N/A
type	String	**Definition**: Image type. **Range**: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved
update_at	Long	**Definition**: Time (UTC) when the image was last updated, accurate to millisecond. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
visibility	String	**Definition**: Image visibility. **Range**: • **PRIVATE**: private image • **PUBLIC**: All users can perform read-only operations based on **image_id**.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
flavor_type	String	**Definition**: Resource type of the image. **Range**: • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip

Table 4-86 Lease

Parameter	Type	Description
create_at	Long	**Definition**: UTC time when the instance is created, accurate to millisecond. **Range**: N/A
duration	Long	**Definition**: Instance runtime, which is calculated based on the instance creation time. If the instance creation time plus the runtime is greater than the current time, the system automatically stops the instance. **Range**: N/A
enable	Boolean	**Definition**: Specifies whether to enable auto stop. **Range**: Boolean • **true**: Auto stop is enabled. • **false**: Auto stop is disabled.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Auto stop type. **Range**: • **TIMING**: auto stop • **IDLE**: stop when idle
update_at	Long	**Definition**: Time (UTC) when the instance is last updated (excluding liveness check), accurate to millisecond. **Range**: N/A

Table 4-87 Pool

Parameter	Type	Description
id	String	**Definition**: Dedicated resource pool ID. **Range**: N/A
name	String	**Definition**: Dedicated resource pool name. **Range**: N/A

Table 4-88 VolumeRes

Parameter	Type	Description
capacity	Integer	**Definition**: Storage capacity. **Range**: The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4,096 GB.
category	String	**Definition**: Supported storage type. For details about the differences between the storage types, see **Selecting Storage in DevEnviron**] (tag:hk). **Range**: • **SFS** • **EVS** • **OBS** • **OBSFS**: parallel file system • **EFS**: SFS Turbo

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
mount_path	String	**Definition**: Directory of the notebook instance to which the storage is mounted. Currently, the directory is **/home/ma-user/work/**. **Range**: N/A
ownership	String	**Definition**: Resource owner. **Range**: • **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	**Definition**: EVS disk capacity expansion status, which is **RESIZING** during capacity expansion and does not affect the instance. **Range**: N/A

Table 4-89 user

Parameter	Type	Description
domain	**domain** object	**Description**: Domain information of the account.
id	String	**Definition**: User ID. For details, see **Obtaining a Username and ID**. **Range**: N/A.
name	String	**Definition**: Username. **Range**: N/A.

Table 4-90 domain

Parameter	Type	Description
id	String	**Definition**: Account ID. **Range**: N/A
name	String	**Definition**: Account name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-91 AffinityType

Parameter	Type	Description
required_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Strong affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory.
preferred_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Weak affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory, and **weight** is optional.

Table 4-92 AffinityRule

Parameter	Type	Description
key	String	**Definition**: Affinity description. Both default labels and custom labels are supported. For details about the default node labels, see **Managing Node Labels**. **Constraints**: Labels are key-value pairs. A valid label key consists of two segments: prefix (optional) and name, which are separated by a slash (/). **Range**: The name segment is mandatory and must be less than or equal to 63 characters. It must start and end with a letter or digit and only contain letters, digits, hyphens (-), underscores (_), and periods (.). The prefix is optional. If specified, the prefix must be a DNS subdomain: a series of DNS labels separated by periods (.), with a total of no more than 253 characters, followed by a slash (/). For details, see **Labels and Selectors**. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
operator	String	**Definition**: Operator. **Constraints**: N/A **Range**: The following operators are supported: In: The label of the affinity or anti-affinity object is in the label value list (values field). NotIn: The label of the affinity or anti-affinity object is not in the label value list (values field). Exists: The affinity or anti-affinity object has a specified label key. DoesNotExist: The affinity or anti-affinity object does not have a specified label key. Gt: The label value of the scheduling node exceeds what is listed (string comparison). Lt: The label value of the scheduling node is under what is listed (string comparison). **Default Value**: N/A.
values	Array of strings	**Definition**: When configuring node affinity, enter the value of the node label. Constraints: The value must be 63 characters or fewer (can be empty). If the label value is not empty, the value must start and end with a letter or digit and can contain hyphens (-), underscores (_), periods (.), letters, or digits. For details, see **Labels and Selectors**.
weight	Integer	Weight value of the weak affinity node. The value ranges from 0 to 100. The value is **NULL** for strong affinity and optional for weak affinity.

Table 4-93 RunUserInfo

Parameter	Type	Description
uid	Integer	User ID of the container startup user.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
gid	Integer	Group ID of the container startup user.
user_name	String	Username of the container startup user.
group_name	String	Group name of the container startup user.

Status code: 201

Created

Example Requests

- Update a notebook instance. The instance must be stopped or failed to be started. Update the value of either strong or weak affinity based on the input value.

```
{
  "affinity" : {
    "required_during_scheduling_ignored_during_execution" : [ {
      "key" : "kubernetes.io/hostname",
      "operator" : "In",
      "values" : [ "192.168.1.1" ]
    } ],
    "preferred_during_scheduling_ignored_during_execution" : [ {
      "key" : "kubernetes.io/hostname",
      "operator" : "In",
      "values" : [ "192.168.1.1" ]
    } ]
  }
}
```

- Select either of the values. No modification is required.

```
{
  "affinity" : {
    "required_during_scheduling_ignored_during_execution" : null,
    "preferred_during_scheduling_ignored_during_execution" : null
  }
}
```

- Disable and clear affinity settings.

```
{
  "affinity" : {
    "required_during_scheduling_ignored_during_execution" : [ ],
    "preferred_during_scheduling_ignored_during_execution" : [ ]
  }
}
```

- Update a notebook instance. No update is required.

```
{
  "affinity" : null
}
```

Example Responses

Status code: 200

OK

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
  "affinity" : {
    "required_during_scheduling_ignored_during_execution" : [ {
      "key" : "kubernetes.io/hostname",
      "operator" : "In",
      "values" : [ "192.168.1.1" ]
    } ],
    "preferred_during_scheduling_ignored_during_execution" : [ {
      "key" : "kubernetes.io/hostname",
      "operator" : "In",
      "values" : [ "192.168.1.1" ]
    } ]
  }
}
```

Status Codes

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

Error Codes

See **Error Codes**.

4.6 Deleting a Notebook Instance

Function

This API is used to delete a created notebook instance and its related resources.

This API applies to the following scenario: When your notebook instance is no longer needed, you can use this API to delete the specified notebook instance, including its containers and all storage resources. Before using this API, ensure that you have logged in to the system and have the permission to perform operations on the target notebook instance. After this API is called, the system deletes the specified notebook instance and its related resources. If you do not have the permission to perform operations on the specified notebook instance or the notebook instance has not been stopped, the API will return an error message. If the specified notebook instance is not found or fails to be deleted, the API will return an error message.

Constraints

No constraints

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:notebook:delete	Write	notebook *	g:ResourceTag/<tag-key>	-	-
		-	• g:EnterpriseProjectId • modelarts:poolType • modelarts:poolId		

URI

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

Table 4-94 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Notebook instance ID. The ID is in the format of a Universally Unique Identifier (UUID). For details about how to obtain the ID, see **Querying Notebook Instances**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-95 Response body parameters

Parameter	Type	Description
action_progress	Array of **JobProgress** objects	**Definition**: Initialization progress of the instance.
description	String	**Definition**: Instance description. **Range**: N/A
endpoints	Array of **EndpointsRes** objects	**Definition**: Local IDE (such as PyCharm and VS Code) or SSH client for remotely accessing a notebook instance through SSH.
fail_reason	String	**Definition**: Instance failure cause. **Range**: N/A
flavor	String	**Definition**: Instance flavor. 1. If you select a system specification, the returned value is the system specification code. 2. If you select a custom specification when creating an instance, this parameter is always returned as **custom.flavor.spec.code**. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
custom_spec	**NotebookCustomSpecRep** object	**Definition**: Custom specifications of an instance. This parameter is returned only when a CPU or GPU dedicated pool is used and the custom specifications are used. **Range**: N/A.
id	String	**Definition**: Instance ID. **Range**: N/A
image	**Image** object	**Definition**: Instance image information.
lease	**Lease** object	**Definition**: Countdown to auto stop of an instance.
name	String	**Definition**: Instance name. **Range**: N/A
pool	**Pool** object	**Definition**: Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. **Range**: • **INIT**: The instance is being initialized. • **CREATING**: The instance is being created. • **STARTING**: The instance is being started. • **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	**Description**: Token used for notebook authentication. **Range**: N/A
url	String	**Definition**: URL for accessing the instance. **Range**: N/A
volume	**VolumeRes** object	**Definition**: Instance storage information.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
feature	String	**Definition**: Instance type. **Range**: • **DEFAULT**: free CodeLab instance. Each user can create only one. • **NOTEBOOK**: billed instance.
billing_items	Array of strings	**Definition**: Billing resource type. **Range**: • **STORAGE**: Storage resource billing • **COMPUTE**: Computing resources billing • **ALL**: All billing types
user	**user** object	**Description**: Account information.
affinity	**AffinityType** object	**Definition**: Affinity information.
run_user	**RunUserInfo** object	**Definition**: Information about the startup user and startup user group.

Table 4-96 JobProgress

Parameter	Type	Description
notebook_id	String	**Definition**: Instance ID. **Range**: N/A
status	String	**Definition**: Job status in a specified step. **Range**: • **WAITING**: The job is awaiting. • **PROCESSING**: The job is being processed. • **FAILED**: The job failed. • **COMPLETED**: The job is complete.
step	Integer	**Definition**: Job step. **Range**: • **1**: Prepare storage. • **2**: Prepare compute resources. • **3**: Configure the network. • **4**: Initialize the instance.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
step_description	String	**Definition**: Job description in a specified step. **Range**: N/A

Table 4-97 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-98 NotebookCustomSpecRep

Parameter	Type	Description
gpu	Float	**Definition**: This parameter is mandatory for GPU dedicated pools. It indicates the number of GPUs requested for an instance. If no GPU needs to be scheduled, set this parameter to **0**. **Constraints**: This field is not available in the CPU dedicated pool scenario.
gpu_type	String	**Definition**: This parameter is one of the response parameters for custom specifications in the GPU dedicated pool scenario. It indicates the type of GPU accelerator cards requested for an instance. **Constraints**: This field is not available in the CPU dedicated pool scenario.
cpu	Float	**Definition**: This parameter is mandatory for CPU and GPU dedicated pools. It indicates the number of CPU cores requested for an instance.
memory	Float	**Definition**: Memory size requested for an instance.
arch	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the CPU architecture of the custom specifications requested for an instance. **Constraints**: The value can be **x86_64** or **AARCH64**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
category	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the type of the custom specifications requested for an instance. **Constraints**: The value can be **CPU** or**GPU**.

Table 4-99 Image

Parameter	Type	Description
arch	String	**Definition**: Processor architecture supported by the image. **Range** • **X86_64**: x86 architecture • **AARCH64**: Arm architecture
create_at	Long	**Definition**: UTC time when the image is created, accurate to millisecond. **Range**: N/A
description	String	**Definition**: Image description. **Range**: Up to 512 characters
dev_services	Array of strings	**Definition**: Services supported by the image. **Range**: • **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	**Definition**: ID of the image used for creating notebook instances. The ID is in Universally Unique Identifier (UUID) format. For details, see **Querying Supported Images**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
name	String	**Definition**: Image name. **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed.
namespace	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Range**: N/A
origin	String	**Definition**: Image source. **Range**: • **CUSTOMIZE**: custom image • **IMAGE_SAVE**: image saved by a notebook instance
resource_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
service_type	String	**Definition**: Supported image types. **Range**: • **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	**Definition**: Image size, in KB. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Image status. **Range**: • **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	**Definition**: Build information during image saving. **Range**: N/A
support_res_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
swr_path	String	**Definition**: SWR image path. **Range**: N/A
tag	String	**Definition**: Image tag. **Range**: N/A
type	String	**Definition**: Image type. **Range**: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved
update_at	Long	**Definition**: Time (UTC) when the image was last updated, accurate to millisecond. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
visibility	String	**Definition**: Image visibility. **Range**: • **PRIVATE**: private image • **PUBLIC**: All users can perform read-only operations based on **image_id**.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
flavor_type	String	**Definition**: Resource type of the image. **Range**: • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip

Table 4-100 Lease

Parameter	Type	Description
create_at	Long	**Definition**: UTC time when the instance is created, accurate to millisecond. **Range**: N/A
duration	Long	**Definition**: Instance runtime, which is calculated based on the instance creation time. If the instance creation time plus the runtime is greater than the current time, the system automatically stops the instance. **Range**: N/A
enable	Boolean	**Definition**: Specifies whether to enable auto stop. **Range**: Boolean • **true**: Auto stop is enabled. • **false**: Auto stop is disabled.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Auto stop type. **Range**: • **TIMING**: auto stop • **IDLE**: stop when idle
update_at	Long	**Definition**: Time (UTC) when the instance is last updated (excluding liveness check), accurate to millisecond. **Range**: N/A

Table 4-101 Pool

Parameter	Type	Description
id	String	**Definition**: Dedicated resource pool ID. **Range**: N/A
name	String	**Definition**: Dedicated resource pool name. **Range**: N/A

Table 4-102 VolumeRes

Parameter	Type	Description
capacity	Integer	**Definition**: Storage capacity. **Range**: The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4,096 GB.
category	String	**Definition**: Supported storage type. For details about the differences between the storage types, see **Selecting Storage in DevEnviron**] (tag:hk). **Range**: • **SFS** • **EVS** • **OBS** • **OBSFS**: parallel file system • **EFS**: SFS Turbo

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
mount_path	String	**Definition**: Directory of the notebook instance to which the storage is mounted. Currently, the directory is **/home/ma-user/work/**. **Range**: N/A
ownership	String	**Definition**: Resource owner. **Range**: • **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	**Definition**: EVS disk capacity expansion status, which is **RESIZING** during capacity expansion and does not affect the instance. **Range**: N/A

Table 4-103 user

Parameter	Type	Description
domain	**domain** object	**Description**: Domain information of the account.
id	String	**Definition**: User ID. For details, see **Obtaining a Username and ID**. **Range**: N/A.
name	String	**Definition**: Username. **Range**: N/A.

Table 4-104 domain

Parameter	Type	Description
id	String	**Definition**: Account ID. **Range**: N/A
name	String	**Definition**: Account name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-105 AffinityType

Parameter	Type	Description
required_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Strong affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory.
preferred_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Weak affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory, and **weight** is optional.

Table 4-106 AffinityRule

Parameter	Type	Description
key	String	**Definition**: Affinity description. Both default labels and custom labels are supported. For details about the default node labels, see **Managing Node Labels**. **Constraints**: Labels are key-value pairs. A valid label key consists of two segments: prefix (optional) and name, which are separated by a slash (/). **Range**: The name segment is mandatory and must be less than or equal to 63 characters. It must start and end with a letter or digit and only contain letters, digits, hyphens (-), underscores (_), and periods (.). The prefix is optional. If specified, the prefix must be a DNS subdomain: a series of DNS labels separated by periods (.), with a total of no more than 253 characters, followed by a slash (/). For details, see **Labels and Selectors**. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
operator	String	**Definition**: Operator. **Constraints**: N/A **Range**: The following operators are supported: In: The label of the affinity or anti-affinity object is in the label value list (values field). NotIn: The label of the affinity or anti-affinity object is not in the label value list (values field). Exists: The affinity or anti-affinity object has a specified label key. DoesNotExist: The affinity or anti-affinity object does not have a specified label key. Gt: The label value of the scheduling node exceeds what is listed (string comparison). Lt: The label value of the scheduling node is under what is listed (string comparison). **Default Value**: N/A.
values	Array of strings	**Definition**: When configuring node affinity, enter the value of the node label. Constraints: The value must be 63 characters or fewer (can be empty). If the label value is not empty, the value must start and end with a letter or digit and can contain hyphens (-), underscores (_), periods (.), letters, or digits. For details, see **Labels and Selectors**.
weight	Integer	Weight value of the weak affinity node. The value ranges from 0 to 100. The value is **NULL** for strong affinity and optional for weak affinity.

Table 4-107 RunUserInfo

Parameter	Type	Description
uid	Integer	User ID of the container startup user.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
gid	Integer	Group ID of the container startup user.
user_name	String	Username of the container startup user.
group_name	String	Group name of the container startup user.

Status code: 204

No content

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.xxxxx.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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
401	Unauthorized
403	Forbidden

Error Codes

See **Error Codes**.

4.7 Saving a Running Instance as a Container Image

Function

This API is used to save a running instance as a container image.

This API applies to the following scenario: When you need to save the current running environment for future use or development, you can use this API to save an instance as an image. Before using this API, ensure that you have logged in to the system and have the permission to access the target instance. In addition, the instance must be running. After this API is called, the system saves the running instance as a container image, including the installed dependency packages and plug-ins. If you do not have the permission to access the specified instance or the instance is not running, the API will return an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:image:create	Write	image *	-	-	-
		-	g:EnterpriseProjectId		

URI

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

Table 4-108 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Notebook instance ID. The ID is in the format of a Universally Unique Identifier (UUID). For details about how to obtain the ID, see **Querying Notebook Instances**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

Table 4-109 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	**Definition**: Image description. **Constraints**: N/A **Range**: Up to 512 characters **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
name	Yes	String	**Definition**: Image name. **Constraints**: N/A **Range**: The value can contain up to 128 characters. Only lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. The string must start and end with a lowercase letter or digit. **Default Value**: N/A
namespace	Yes	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Constraints**: N/A **Range**: The value can contain a maximum of 64 characters and must start with a lowercase letter. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. **Default Value**: N/A
tag	No	String	**Definition**: Image tag. **Constraints**: N/A **Range**: The value can contain a maximum of 64 characters. Letters, digits, hyphens (-), underscores (_), and commas (,) are allowed. **Default Value**: N/A
workspace_id	No	String	**Definition**: Workspace ID. [For details about how to obtain the ID, see **Querying the Workspace List**.] (tag:hc,hk)If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Constraints**: N/A **Range**: N/A **Default Value**: **0**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 4-110 Response body parameters

Parameter	Type	Description
arch	String	**Definition**: Processor architecture supported by the image. **Range** • **X86_64**: x86 architecture • **AARCH64**: Arm architecture
create_at	Long	**Definition**: UTC time when the image is created, accurate to millisecond. **Range**: N/A
description	String	**Definition**: Image description. **Range**: Up to 512 characters
dev_services	Array of strings	**Definition**: Services supported by the image. **Range**: • **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	**Definition**: ID of the image used for creating notebook instances. The ID is in Universally Unique Identifier (UUID) format. For details, see **Querying Supported Images**. **Range**: N/A
name	String	**Definition**: Image name. **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
namespace	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Range**: N/A
origin	String	**Definition**: Image source. **Range**: • **CUSTOMIZE**: custom image • **IMAGE_SAVE**: image saved by a notebook instance
resource_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
service_type	String	**Definition**: Supported image types. **Range**: • **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	**Definition**: Image size, in KB. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Image status. **Range**: • **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	**Definition**: Build information during image saving. **Range**: N/A
support_res_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
swr_path	String	**Definition**: SWR image path. **Range**: N/A
tag	String	**Definition**: Image tag. **Range**: N/A
type	String	**Definition**: Image type. **Range**: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved
update_at	Long	**Definition**: Time (UTC) when the image was last updated, accurate to millisecond. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
visibility	String	**Definition**: Image visibility. **Range**: • **PRIVATE**: private image • **PUBLIC**: All users can perform read-only operations based on **image_id**.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
flavor_type	String	**Definition**: Resource type of the image. **Range**: • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip

Status code: 201

Created

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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "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**.

4.8 Querying the List of Valid Specifications Supported by Notebook Instances

Function

This API is used to obtain the available specifications supported by notebook instances. This API applies to the following scenario: When you want to know the configuration options supported by a notebook instance, you can use this API to query the list of available specifications. Before using this API, ensure that you have logged in to the system and have the permission to access the target notebook instance. After this API is called, the system returns the valid specifications supported by the notebook instance. For example, the memory and CPU. If you do not have the permission to access the specified notebook instance or the notebook instance is not running, the API will return an error message.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/notebooks/flavors

Table 4-111 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 4-112 Query Parameters

Parameter	Mandatory	Type	Description
category	No	String	**Definition**: Processor type **Constraints**: N/A **Range**: Enums: • **CPU** • **GPU** • **ASCEND** **Default Value**: N/A
limit	No	Integer	**Definition**: Number of valid specifications displayed on each page. There is no limit by default. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
offset	No	Integer	**Definition**: Start offset of the records on each page **Constraints**: N/A **Range**: N/A **Default Value**: **0**
type	No	String	**Definition**: Cluster type **Constraints**: N/A **Range**: Enums: • **MANAGED**: public cluster • **DEDICATED**: dedicated cluster **Default Value**: N/A
sort_dir	No	String	**Definition**: Sorting mode **Constraints**: N/A **Range**: Enums: • **ASC**: ascending order • **DESC**: descending order **Default Value**: **DESC**
sort_key	No	String	**Definition**: Sorting field. Separate multiple fields with commas (,). **Constraints**: N/A **Range**: The value can contain a maximum of 128 characters. Letters, digits, hyphens (-), underscores (_), and commas (,) are allowed. **Default Value**: N/A
flavor_type	No	String	**Definition**: Resource type. **Constraints**: N/A **Range** • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip **Default Value**: N/A

Request Parameters

None

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 4-113 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. **Range**: Positive integers
data	Array of **NotebookFlavor** objects	**Definition**: Pagination data.
flavors	Array of **NotebookFlavor** objects	**Definition**: List of flavors that can be switched.
pages	Integer	**Definition**: Total number of pages. **Range**: Positive integers
size	Integer	**Definition**: Number of records on each page **Range**: Positive integers
total	Long	**Definition**: Total number of records. **Range**: Non-negative integers

Table 4-114 NotebookFlavor

Parameter	Type	Description
arch	String	**Definition**: Architecture type. **Range**: • **X86_64** • **AARCH64**
ascend	**AscendInfo** object	**Description**: NPU information.
billing	**BillingInfo** object	**Definition**: CDR information.
category	String	**Definition**: Processor type. **Range**: • **CPU** • **GPU** • **ASCEND**
description	String	**Definition**: Specifications description. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
feature	String	**Definition**: Instance type. **Range**: • **DEFAULT**: free CodeLab instance. Each user can create only one. • **NOTEBOOK**: billed instance.
free	Boolean	**Definition**: Whether free specifications are used. **Range**: Boolean • **true**: free specifications • **false**: non-free specifications
gpu	**GPUInfo** object	**Description**: GPU information.
id	String	**Definition**: Specification ID. **Range**: N/A
memory	Long	**Definition**: Memory size. **Range**: N/A
name	String	**Definition**: Specification name. **Range**: N/A
sold_out	Boolean	**Definition**: Whether resources are sufficient. **Range**: Boolean • **true**: Resources are insufficient. • **false**: Resources are sufficient.
storages	Array of strings	**Definition**: Storage type supported by the specification. **Range**: • EFS • EVS
vcpus	Integer	**Definition**: Number of CPU cores. **Range**: N/A

Table 4-115 AscendInfo

Parameter	Type	Description
npu	Integer	**Definition**: Number of NPUs. **Range**: N/A
npu_memory	String	**Definition**: NPU memory. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: NPU type. **Range**: N/A

Table 4-116 BillingInfo

Parameter	Type	Description
code	String	**Definition**: Billing code. **Range**: N/A
unit_num	Integer	**Definition**: Billing unit. **Range**: N/A

Table 4-117 GPUInfo

Parameter	Type	Description
gpu	Integer	Number of GPUs.
gpu_memory	String	**Definition**: GPU memory. **Range**: N/A
type	String	**Definition**: GPU type. **Range**: N/A

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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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**.

4.9 Querying the List of Switchable Specifications Supported by Notebook Instances

Function

This API is used to obtain the available specifications that can be switched during notebook instance creation.

This API applies to the following scenario: When you want to know the configuration options supported by a notebook instance, you can use this API to query the list of available specifications. Before using this API, ensure that you have logged in to the system and have the permission to create a notebook instance. After this API is called, the system returns the switchable specifications supported by the notebook instance. For example, the memory and CPU. If you do not have the permission to create a notebook instance, the API will return an error message.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

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

Table 4-118 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Notebook instance ID. The ID is in the format of a Universally Unique Identifier (UUID). For details about how to obtain the ID, see **Querying Notebook Instances**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 4-119 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	**Definition**: Number of valid specifications displayed on each page. There is no limit by default. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
offset	No	Integer	**Definition**: Start offset of the records on each page **Constraints**: N/A **Range**: N/A **Default Value**: **0**

Request Parameters

None

Response Parameters

Status code: 200

Table 4-120 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. **Range**: Positive integers
data	Array of **NotebookFlavor** objects	**Definition**: Pagination data.
flavors	Array of **NotebookFlavor** objects	**Definition**: List of flavors that can be switched.
pages	Integer	**Definition**: Total number of pages. **Range**: Positive integers
size	Integer	**Definition**: Number of records on each page **Range**: Positive integers
total	Long	**Definition**: Total number of records. **Range**: Non-negative integers

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-121 NotebookFlavor

Parameter	Type	Description
arch	String	**Definition**: Architecture type. **Range**: • **X86_64** • **AARCH64**
ascend	**AscendInfo** object	**Description**: NPU information.
billing	**BillingInfo** object	**Definition**: CDR information.
category	String	**Definition**: Processor type. **Range**: • **CPU** • **GPU** • **ASCEND**
description	String	**Definition**: Specifications description. **Range**: N/A
feature	String	**Definition**: Instance type. **Range**: • **DEFAULT**: free CodeLab instance. Each user can create only one. • **NOTEBOOK**: billed instance.
free	Boolean	**Definition**: Whether free specifications are used. **Range**: Boolean • **true**: free specifications • **false**: non-free specifications
gpu	**GPUInfo** object	**Description**: GPU information.
id	String	**Definition**: Specification ID. **Range**: N/A
memory	Long	**Definition**: Memory size. **Range**: N/A
name	String	**Definition**: Specification name. **Range**: N/A
sold_out	Boolean	**Definition**: Whether resources are sufficient. **Range**: Boolean • **true**: Resources are insufficient. • **false**: Resources are sufficient.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
storages	Array of strings	**Definition**: Storage type supported by the specification. **Range**: • EFS • EVS
vcpus	Integer	**Definition**: Number of CPU cores. **Range**: N/A

Table 4-122 AscendInfo

Parameter	Type	Description
npu	Integer	**Definition**: Number of NPUs. **Range**: N/A
npu_memory	String	**Definition**: NPU memory. **Range**: N/A
type	String	**Definition**: NPU type. **Range**: N/A

Table 4-123 BillingInfo

Parameter	Type	Description
code	String	**Definition**: Billing code. **Range**: N/A
unit_num	Integer	**Definition**: Billing unit. **Range**: N/A

Table 4-124 GPUInfo

Parameter	Type	Description
gpu	Integer	Number of GPUs.
gpu_memory	String	**Definition**: GPU memory. **Range**: N/A
type	String	**Definition**: GPU type. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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
404	Not found

Error Codes

See **Error Codes**.

4.10 Querying the Available Duration of a Running Notebook Instance

Function

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

This API applies to the following scenario: When you need to know how long a notebook instance can remain running to properly arrange tasks, you can use this

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

API to query the available duration of it. Before using this API, ensure that you have logged in to the system and have the permission to access the target notebook instance. In addition, the notebook instance must be running. After this API is called, the system returns the available duration of the specified notebook instance. If you do not have the permission to access the specified notebook instance or the notebook instance is not running, the API will return an error message. If the specified notebook instance is not found or the query fails, the API will return an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

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

Table 4-125 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Notebook instance ID. The ID is in the format of a Universally Unique Identifier (UUID). For details about how to obtain the ID, see **Querying Notebook Instances**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-126 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: UTC time when the instance is created, accurate to millisecond. **Range**: N/A
duration	Long	**Definition**: Instance runtime, which is calculated based on the instance creation time. If the instance creation time plus the runtime is greater than the current time, the system automatically stops the instance. **Range**: N/A
enable	Boolean	**Definition**: Specifies whether to enable auto stop. **Range**: Boolean • **true**: Auto stop is enabled. • **false**: Auto stop is disabled.
type	String	**Definition**: Auto stop type. **Range**: • **TIMING**: auto stop • **IDLE**: stop when idle

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
update_at	Long	**Definition**: Time (UTC) when the instance is last updated (excluding liveness check), accurate to millisecond. **Range**: N/A

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**.

4.11 Prolonging a Notebook Instance

Function

This API is used to prolong the running time of a running notebook instance. This API applies to the following scenarios: When you need to prolong the running time of a notebook instance to complete long-time tasks, you can call this API to do so. Before using this API, ensure that you have logged in to the system and have the permission to perform operations on the target notebook instance. In

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

addition, the notebook instance must be running. After this API is called, the system prolongs the running time of the specified notebook instance, so that you can continue to use it. If you do not have the permission to perform operations on the specified notebook instance or the notebook instance is not running, the API will return an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:notebook:updateStopPolicy	Write	notebook *	g:ResourceTag/<tag-key>	-	-
		-	g:EnterpriseProjectId		

URI

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-127 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Notebook instance ID. The ID is in the format of a Universally Unique Identifier (UUID). For details about how to obtain the ID, see **Querying Notebook Instances**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 4-128 Query Parameters

Parameter	Mandatory	Type	Description
duration	No	Long	**Definition**: Renewal duration (unit: ms). It is recommended that this parameter be set in **leaseReq**. If the query parameters include **duration**, the value set in **leaseReq** is ignored and the instance is stopped as scheduled. **Constraints**: N/A **Range**: 3600000 to 259200000 **Default Value**: **3600000**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 4-129 Request body parameters

Parameter	Mandatory	Type	Description
duration	No	Long	**Definition**: The instance stops as scheduled. Its runtime is measured in milliseconds starting now. **Constraints**: N/A **Range**: 3600000 to 259200000 **Default Value**: **3600000**
type	No	String	**Definition**: Auto stop type. **Constraints**: N/A **Range**: • **TIMING**: auto stop • **IDLE**: stop when idle **Default Value**: **TIMING**

Response Parameters

Status code: 200

Table 4-130 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: UTC time when the instance is created, accurate to millisecond. **Range**: N/A
duration	Long	**Definition**: Instance runtime, which is calculated based on the instance creation time. If the instance creation time plus the runtime is greater than the current time, the system automatically stops the instance. **Range**: N/A
enable	Boolean	**Definition**: Specifies whether to enable auto stop. **Range**: Boolean • **true**: Auto stop is enabled. • **false**: Auto stop is disabled.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Auto stop type. **Range**: • **TIMING**: auto stop • **IDLE**: stop when idle
update_at	Long	**Definition**: Time (UTC) when the instance is last updated (excluding liveness check), accurate to millisecond. **Range**: N/A

Status code: 204

No content

Example Requests

Prolong the 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

4.12 Starting a Notebook Instance

Function

This API is used to start a created notebook instance.

This API applies to the following scenarios: When you need to run a notebook instance for data processing, model training, or development, you can use this API to start a specified notebook instance. Before using this API, ensure that you have logged in to the system and have the permission to perform operations on the target notebook instance. In addition, the notebook instance must have been stopped, and configurations must be correct. After this API is called, the system starts the specified notebook instance for your use. If you do not have the permission to perform operations on the specified notebook instance or the notebook instance has not been stopped, the API will return an error message. If the specified notebook instance is not found or the startup fails, the API will return an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:notebook:start	Write	notebook *	g:ResourceTag/<tag-key>	-	-

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
		-	• g:EnterpriseProjectId • modelarts:poolType • modelarts:poolId		

URI

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

Table 4-131 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Notebook instance ID. The ID is in the format of a Universally Unique Identifier (UUID). For details about how to obtain the ID, see **Querying Notebook Instances**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-132 Query Parameters

Parameter	Mandatory	Type	Description
duration	No	Long	**Definition**: Running duration after startup, in milliseconds **Constraints**: N/A **Range**: 3600000 to 259200000 **Default Value**: **3600000**
type	No	String	**Definition**: Auto stop type **Constraints**: N/A **Range**: Enums: • **TIMING**: auto stop • **IDLE**: stop when idle **Default Value**: **TIMING**

Request Parameters

None

Response Parameters

Status code: 200

Table 4-133 Response body parameters

Parameter	Type	Description
action_progress	Array of **JobProgress** objects	**Definition**: Initialization progress of the instance.
description	String	**Definition**: Instance description. **Range**: N/A
endpoints	Array of **EndpointsRes** objects	**Definition**: Local IDE (such as PyCharm and VS Code) or SSH client for remotely accessing a notebook instance through SSH.
fail_reason	String	**Definition**: Instance failure cause. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
flavor	String	**Definition**: Instance flavor. 1. If you select a system specification, the returned value is the system specification code. 2. If you select a custom specification when creating an instance, this parameter is always returned as **custom.flavor.spec.code**. **Range**: N/A.
custom_spec	**NotebookCustomSpecRep** object	**Definition**: Custom specifications of an instance. This parameter is returned only when a CPU or GPU dedicated pool is used and the custom specifications are used. **Range**: N/A.
id	String	**Definition**: Instance ID. **Range**: N/A
image	**Image** object	**Definition**: Instance image information.
lease	**Lease** object	**Definition**: Countdown to auto stop of an instance.
name	String	**Definition**: Instance name. **Range**: N/A
pool	**Pool** object	**Definition**: Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. **Range**: • **INIT**: The instance is being initialized. • **CREATING**: The instance is being created. • **STARTING**: The instance is being started. • **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	**Description**: Token used for notebook authentication. **Range**: N/A
url	String	**Definition**: URL for accessing the instance. **Range**: N/A
volume	**VolumeRes** object	**Definition**: Instance storage information.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
feature	String	**Definition**: Instance type. **Range**: • **DEFAULT**: free CodeLab instance. Each user can create only one. • **NOTEBOOK**: billed instance.
billing_items	Array of strings	**Definition**: Billing resource type. **Range**: • **STORAGE**: Storage resource billing • **COMPUTE**: Computing resources billing • **ALL**: All billing types
user	**user** object	**Description**: Account information.
affinity	**AffinityType** object	**Definition**: Affinity information.
run_user	**RunUserInfo** object	**Definition**: Information about the startup user and startup user group.

Table 4-134 JobProgress

Parameter	Type	Description
notebook_id	String	**Definition**: Instance ID. **Range**: N/A
status	String	**Definition**: Job status in a specified step. **Range**: • **WAITING**: The job is awaiting. • **PROCESSING**: The job is being processed. • **FAILED**: The job failed. • **COMPLETED**: The job is complete.
step	Integer	**Definition**: Job step. **Range**: • **1**: Prepare storage. • **2**: Prepare compute resources. • **3**: Configure the network. • **4**: Initialize the instance.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
step_description	String	**Definition**: Job description in a specified step. **Range**: N/A

Table 4-135 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-136 NotebookCustomSpecRep

Parameter	Type	Description
gpu	Float	**Definition**: This parameter is mandatory for GPU dedicated pools. It indicates the number of GPUs requested for an instance. If no GPU needs to be scheduled, set this parameter to **0**. **Constraints**: This field is not available in the CPU dedicated pool scenario.
gpu_type	String	**Definition**: This parameter is one of the response parameters for custom specifications in the GPU dedicated pool scenario. It indicates the type of GPU accelerator cards requested for an instance. **Constraints**: This field is not available in the CPU dedicated pool scenario.
cpu	Float	**Definition**: This parameter is mandatory for CPU and GPU dedicated pools. It indicates the number of CPU cores requested for an instance.
memory	Float	**Definition**: Memory size requested for an instance.
arch	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the CPU architecture of the custom specifications requested for an instance. **Constraints**: The value can be **x86_64** or **AARCH64**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
category	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the type of the custom specifications requested for an instance. **Constraints**: The value can be **CPU** or**GPU**.

Table 4-137 Image

Parameter	Type	Description
arch	String	**Definition**: Processor architecture supported by the image. **Range** • **X86_64**: x86 architecture • **AARCH64**: Arm architecture
create_at	Long	**Definition**: UTC time when the image is created, accurate to millisecond. **Range**: N/A
description	String	**Definition**: Image description. **Range**: Up to 512 characters
dev_services	Array of strings	**Definition**: Services supported by the image. **Range**: • **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	**Definition**: ID of the image used for creating notebook instances. The ID is in Universally Unique Identifier (UUID) format. For details, see **Querying Supported Images**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
name	String	**Definition**: Image name. **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed.
namespace	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Range**: N/A
origin	String	**Definition**: Image source. **Range**: • **CUSTOMIZE**: custom image • **IMAGE_SAVE**: image saved by a notebook instance
resource_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
service_type	String	**Definition**: Supported image types. **Range**: • **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	**Definition**: Image size, in KB. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Image status. **Range**: • **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	**Definition**: Build information during image saving. **Range**: N/A
support_res_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
swr_path	String	**Definition**: SWR image path. **Range**: N/A
tag	String	**Definition**: Image tag. **Range**: N/A
type	String	**Definition**: Image type. **Range**: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved
update_at	Long	**Definition**: Time (UTC) when the image was last updated, accurate to millisecond. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
visibility	String	**Definition**: Image visibility. **Range**: • **PRIVATE**: private image • **PUBLIC**: All users can perform read-only operations based on **image_id**.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
flavor_type	String	**Definition**: Resource type of the image. **Range**: • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip

Table 4-138 Lease

Parameter	Type	Description
create_at	Long	**Definition**: UTC time when the instance is created, accurate to millisecond. **Range**: N/A
duration	Long	**Definition**: Instance runtime, which is calculated based on the instance creation time. If the instance creation time plus the runtime is greater than the current time, the system automatically stops the instance. **Range**: N/A
enable	Boolean	**Definition**: Specifies whether to enable auto stop. **Range**: Boolean • **true**: Auto stop is enabled. • **false**: Auto stop is disabled.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Auto stop type. **Range**: • **TIMING**: auto stop • **IDLE**: stop when idle
update_at	Long	**Definition**: Time (UTC) when the instance is last updated (excluding liveness check), accurate to millisecond. **Range**: N/A

Table 4-139 Pool

Parameter	Type	Description
id	String	**Definition**: Dedicated resource pool ID. **Range**: N/A
name	String	**Definition**: Dedicated resource pool name. **Range**: N/A

Table 4-140 VolumeRes

Parameter	Type	Description
capacity	Integer	**Definition**: Storage capacity. **Range**: The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4,096 GB.
category	String	**Definition**: Supported storage type. For details about the differences between the storage types, see **Selecting Storage in DevEnviron**] (tag:hk). **Range**: • **SFS** • **EVS** • **OBS** • **OBSFS**: parallel file system • **EFS**: SFS Turbo

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
mount_path	String	**Definition**: Directory of the notebook instance to which the storage is mounted. Currently, the directory is **/home/ma-user/work/**. **Range**: N/A
ownership	String	**Definition**: Resource owner. **Range**: • **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	**Definition**: EVS disk capacity expansion status, which is **RESIZING** during capacity expansion and does not affect the instance. **Range**: N/A

Table 4-141 user

Parameter	Type	Description
domain	**domain** object	**Description**: Domain information of the account.
id	String	**Definition**: User ID. For details, see **Obtaining a Username and ID**. **Range**: N/A.
name	String	**Definition**: Username. **Range**: N/A.

Table 4-142 domain

Parameter	Type	Description
id	String	**Definition**: Account ID. **Range**: N/A
name	String	**Definition**: Account name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-143 AffinityType

Parameter	Type	Description
required_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Strong affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory.
preferred_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Weak affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory, and **weight** is optional.

Table 4-144 AffinityRule

Parameter	Type	Description
key	String	**Definition**: Affinity description. Both default labels and custom labels are supported. For details about the default node labels, see **Managing Node Labels**. **Constraints**: Labels are key-value pairs. A valid label key consists of two segments: prefix (optional) and name, which are separated by a slash (/). **Range**: The name segment is mandatory and must be less than or equal to 63 characters. It must start and end with a letter or digit and only contain letters, digits, hyphens (-), underscores (_), and periods (.). The prefix is optional. If specified, the prefix must be a DNS subdomain: a series of DNS labels separated by periods (.), with a total of no more than 253 characters, followed by a slash (/). For details, see **Labels and Selectors**. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
operator	String	**Definition**: Operator. **Constraints**: N/A **Range**: The following operators are supported: In: The label of the affinity or anti-affinity object is in the label value list (values field). NotIn: The label of the affinity or anti-affinity object is not in the label value list (values field). Exists: The affinity or anti-affinity object has a specified label key. DoesNotExist: The affinity or anti-affinity object does not have a specified label key. Gt: The label value of the scheduling node exceeds what is listed (string comparison). Lt: The label value of the scheduling node is under what is listed (string comparison). **Default Value**: N/A.
values	Array of strings	**Definition**: When configuring node affinity, enter the value of the node label. Constraints: The value must be 63 characters or fewer (can be empty). If the label value is not empty, the value must start and end with a letter or digit and can contain hyphens (-), underscores (_), periods (.), letters, or digits. For details, see **Labels and Selectors**.
weight	Integer	Weight value of the weak affinity node. The value ranges from 0 to 100. The value is **NULL** for strong affinity and optional for weak affinity.

Table 4-145 RunUserInfo

Parameter	Type	Description
uid	Integer	User ID of the container startup user.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
gid	Integer	Group ID of the container startup user.
user_name	String	Username of the container startup user.
group_name	String	Group name of the container startup user.

Status code: 201

Created

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.xxxxx.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.xxxxx.com/f9937afa-4451-42db-a76b-72d624749f66/lab",
  "volume" : {
    "category" : "EFS",
    "ownership" : "MANAGED",
    "mount_path" : "/home/ma-user/work/",
    "capacity" : 50
  },
  "workspace_id" : "0"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

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

Error Codes

See **Error Codes**.

4.13 Stopping a Notebook Instance

Function

This API is used to stop a notebook instance that is running.

This API applies to the following scenario: When you need to release the resources occupied by a notebook instance or stop a running task, you can use this API to stop a specified notebook instance. Before using this API, ensure that you have logged in to the system and have the permission to perform operations on the target notebook instance. In addition, the notebook instance must be running. After this API is called, the system stops the specified notebook instance and releases related resources. If you do not have the permission to perform operations on the specified notebook instance or the notebook instance is not running, the API will return an error message. If the specified notebook instance is not found or the stop fails, the API will return an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:notebook:stop	Write	notebook *	g:ResourceTag/<tag-key>	-	-
		-	• g:EnterpriseProjectId • modelarts:poolType • modelarts:poolId		

URI

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

Table 4-146 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Notebook instance ID. The ID is in the format of a Universally Unique Identifier (UUID). For details about how to obtain the ID, see **Querying Notebook Instances**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 4-147 Response body parameters

Parameter	Type	Description
action_progress	Array of **JobProgress** objects	**Definition**: Initialization progress of the instance.
description	String	**Definition**: Instance description. **Range**: N/A
endpoints	Array of **EndpointsRes** objects	**Definition**: Local IDE (such as PyCharm and VS Code) or SSH client for remotely accessing a notebook instance through SSH.
fail_reason	String	**Definition**: Instance failure cause. **Range**: N/A
flavor	String	**Definition**: Instance flavor. 1. If you select a system specification, the returned value is the system specification code. 2. If you select a custom specification when creating an instance, this parameter is always returned as **custom.flavor.spec.code**. **Range**: N/A.
custom_spec	**NotebookCustomSpecRep** object	**Definition**: Custom specifications of an instance. This parameter is returned only when a CPU or GPU dedicated pool is used and the custom specifications are used. **Range**: N/A.
id	String	**Definition**: Instance ID. **Range**: N/A
image	**Image** object	**Definition**: Instance image information.
lease	**Lease** object	**Definition**: Countdown to auto stop of an instance.
name	String	**Definition**: Instance name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
pool	**Pool** object	**Definition**: Basic information about the dedicated pool, which is returned by the instance created in the dedicated pool.
status	String	**Definition**: Instance status. **Range**: • **INIT**: The instance is being initialized. • **CREATING**: The instance is being created. • **STARTING**: The instance is being started. • **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	**Description**: Token used for notebook authentication. **Range**: N/A
url	String	**Definition**: URL for accessing the instance. **Range**: N/A
volume	**VolumeRes** object	**Definition**: Instance storage information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
feature	String	**Definition**: Instance type. **Range**: • **DEFAULT**: free CodeLab instance. Each user can create only one. • **NOTEBOOK**: billed instance.
billing_items	Array of strings	**Definition**: Billing resource type. **Range**: • **STORAGE**: Storage resource billing • **COMPUTE**: Computing resources billing • **ALL**: All billing types
user	**user** object	**Description**: Account information.
affinity	**AffinityType** object	**Definition**: Affinity information.
run_user	**RunUserInfo** object	**Definition**: Information about the startup user and startup user group.

Table 4-148 JobProgress

Parameter	Type	Description
notebook_id	String	**Definition**: Instance ID. **Range**: N/A
status	String	**Definition**: Job status in a specified step. **Range**: • **WAITING**: The job is awaiting. • **PROCESSING**: The job is being processed. • **FAILED**: The job failed. • **COMPLETED**: The job is complete.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
step	Integer	**Definition**: Job step. **Range**: • **1**: Prepare storage. • **2**: Prepare compute resources. • **3**: Configure the network. • **4**: Initialize the instance.
step_description	String	**Definition**: Job description in a specified step. **Range**: N/A

Table 4-149 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 4-150 NotebookCustomSpecRep

Parameter	Type	Description
gpu	Float	**Definition**: This parameter is mandatory for GPU dedicated pools. It indicates the number of GPUs requested for an instance. If no GPU needs to be scheduled, set this parameter to **0**. **Constraints**: This field is not available in the CPU dedicated pool scenario.
gpu_type	String	**Definition**: This parameter is one of the response parameters for custom specifications in the GPU dedicated pool scenario. It indicates the type of GPU accelerator cards requested for an instance. **Constraints**: This field is not available in the CPU dedicated pool scenario.
cpu	Float	**Definition**: This parameter is mandatory for CPU and GPU dedicated pools. It indicates the number of CPU cores requested for an instance.
memory	Float	**Definition**: Memory size requested for an instance.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
arch	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the CPU architecture of the custom specifications requested for an instance. **Constraints**: The value can be **x86_64** or **AARCH64**.
category	String	**Definition**: This parameter is mandatory for custom specifications in the CPU/GPU dedicated pool scenario. It indicates the type of the custom specifications requested for an instance. **Constraints**: The value can be **CPU** or**GPU**.

Table 4-151 Image

Parameter	Type	Description
arch	String	**Definition**: Processor architecture supported by the image. **Range** • **X86_64**: x86 architecture • **AARCH64**: Arm architecture
create_at	Long	**Definition**: UTC time when the image is created, accurate to millisecond. **Range**: N/A
description	String	**Definition**: Image description. **Range**: Up to 512 characters
dev_services	Array of strings	**Definition**: Services supported by the image. **Range**: • **NOTEBOOK**: You can access a notebook instance using HTTPS. • **SSH**: You can remotely access a notebook instance from a local IDE through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
id	String	**Definition**: ID of the image used for creating notebook instances. The ID is in Universally Unique Identifier (UUID) format. For details, see **Querying Supported Images**. **Range**: N/A
name	String	**Definition**: Image name. **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed.
namespace	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Range**: N/A
origin	String	**Definition**: Image source. **Range**: • **CUSTOMIZE**: custom image • **IMAGE_SAVE**: image saved by a notebook instance
resource_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
service_type	String	**Definition**: Supported image types. **Range**: • **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	**Definition**: Image size, in KB. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Image status. **Range**: • **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	**Definition**: Build information during image saving. **Range**: N/A
support_res_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
swr_path	String	**Definition**: SWR image path. **Range**: N/A
tag	String	**Definition**: Image tag. **Range**: N/A
type	String	**Definition**: Image type. **Range**: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved
update_at	Long	**Definition**: Time (UTC) when the image was last updated, accurate to millisecond. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
visibility	String	**Definition**: Image visibility. **Range**: • **PRIVATE**: private image • **PUBLIC**: All users can perform read-only operations based on **image_id**.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
flavor_type	String	**Definition**: Resource type of the image. **Range**: • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip

Table 4-152 Lease

Parameter	Type	Description
create_at	Long	**Definition**: UTC time when the instance is created, accurate to millisecond. **Range**: N/A
duration	Long	**Definition**: Instance runtime, which is calculated based on the instance creation time. If the instance creation time plus the runtime is greater than the current time, the system automatically stops the instance. **Range**: N/A
enable	Boolean	**Definition**: Specifies whether to enable auto stop. **Range**: Boolean • **true**: Auto stop is enabled. • **false**: Auto stop is disabled.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Auto stop type. **Range**: • **TIMING**: auto stop • **IDLE**: stop when idle
update_at	Long	**Definition**: Time (UTC) when the instance is last updated (excluding liveness check), accurate to millisecond. **Range**: N/A

Table 4-153 Pool

Parameter	Type	Description
id	String	**Definition**: Dedicated resource pool ID. **Range**: N/A
name	String	**Definition**: Dedicated resource pool name. **Range**: N/A

Table 4-154 VolumeRes

Parameter	Type	Description
capacity	Integer	**Definition**: Storage capacity. **Range**: The default value is 5 GB for EVS and 50 GB for EFS. The maximum value is 4,096 GB.
category	String	**Definition**: Supported storage type. For details about the differences between the storage types, see **Selecting Storage in DevEnviron**] (tag:hk). **Range**: • **SFS** • **EVS** • **OBS** • **OBSFS**: parallel file system • **EFS**: SFS Turbo

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
mount_path	String	**Definition**: Directory of the notebook instance to which the storage is mounted. Currently, the directory is **/home/ma-user/work/**. **Range**: N/A
ownership	String	**Definition**: Resource owner. **Range**: • **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	**Definition**: EVS disk capacity expansion status, which is **RESIZING** during capacity expansion and does not affect the instance. **Range**: N/A

Table 4-155 user

Parameter	Type	Description
domain	**domain** object	**Description**: Domain information of the account.
id	String	**Definition**: User ID. For details, see **Obtaining a Username and ID**. **Range**: N/A.
name	String	**Definition**: Username. **Range**: N/A.

Table 4-156 domain

Parameter	Type	Description
id	String	**Definition**: Account ID. **Range**: N/A
name	String	**Definition**: Account name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-157 AffinityType

Parameter	Type	Description
required_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Strong affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory.
preferred_during_scheduling_ignored_during_execution	Array of **AffinityRule** objects	**Definition**: Weak affinity feature in the dedicated pool scenario. **Constraints**: **key**, **values**, and **operator** are mandatory, and **weight** is optional.

Table 4-158 AffinityRule

Parameter	Type	Description
key	String	**Definition**: Affinity description. Both default labels and custom labels are supported. For details about the default node labels, see **Managing Node Labels**. **Constraints**: Labels are key-value pairs. A valid label key consists of two segments: prefix (optional) and name, which are separated by a slash (/). **Range**: The name segment is mandatory and must be less than or equal to 63 characters. It must start and end with a letter or digit and only contain letters, digits, hyphens (-), underscores (_), and periods (.). The prefix is optional. If specified, the prefix must be a DNS subdomain: a series of DNS labels separated by periods (.), with a total of no more than 253 characters, followed by a slash (/). For details, see **Labels and Selectors**. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
operator	String	**Definition**: Operator. **Constraints**: N/A **Range**: The following operators are supported: In: The label of the affinity or anti-affinity object is in the label value list (values field). NotIn: The label of the affinity or anti-affinity object is not in the label value list (values field). Exists: The affinity or anti-affinity object has a specified label key. DoesNotExist: The affinity or anti-affinity object does not have a specified label key. Gt: The label value of the scheduling node exceeds what is listed (string comparison). Lt: The label value of the scheduling node is under what is listed (string comparison). **Default Value**: N/A.
values	Array of strings	**Definition**: When configuring node affinity, enter the value of the node label. Constraints: The value must be 63 characters or fewer (can be empty). If the label value is not empty, the value must start and end with a letter or digit and can contain hyphens (-), underscores (_), periods (.), letters, or digits. For details, see **Labels and Selectors**.
weight	Integer	Weight value of the weak affinity node. The value ranges from 0 to 100. The value is **NULL** for strong affinity and optional for weak affinity.

Table 4-159 RunUserInfo

Parameter	Type	Description
uid	Integer	User ID of the container startup user.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
gid	Integer	Group ID of the container startup user.
user_name	String	Username of the container startup user.
group_name	String	Group name of the container startup user.

Status code: 201

Created

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.xxxxx.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-xxxxx.xxxxx.com/f9937afa-4451-42db-a76b-72d624749f66/lab",
  "volume" : {
    "category" : "EFS",
    "ownership" : "MANAGED",
    "mount_path" : "/home/ma-user/work/",
    "capacity" : 50
  },
  "workspace_id" : "0"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

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

Error Codes

See **Error Codes**.

4.14 Obtaining Details About All Notebook Resource Pool Instances

Function

This API is used to obtain details about all notebook resource pool instances associated with a user. This API is used when you need to select a resource pool when creating a notebook instance. Before using this API, ensure that you have registered and logged in to the system and have the permission to view resource pool instances. After the API is called, the API returns a list of detailed information about all resource pool instances, including the instance name, status, and node specifications. If you have not logged in to the system, do not have the required permission to access the resource pool, or an internal error occurs in the system, the API returns an error message, for example, unauthorized access, service unavailable, or internal error.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

URI

GET /v1/{project_id}/authoring/clusters

Table 4-160 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Table 4-161 Query Parameters

Parameter	Mandatory	Type	Description
type	Yes	String	**Definition**: Resource pool type. **Constraints**: N/A **Range** • **MANAGED**: public pool • **DEDICATED**: dedicated pool **Default Value**: N/A
workspace_id	No	String	**Definition**: Workspace ID. . **Constraints**: There must be a workspace in use. **Range**: N/A **Default Value**: **0**
limit	No	Integer	**Definition**: Number of instances displayed on each page. **Constraints**: N/A **Range**: greater than or equal to 0. **Default Value**: **1000**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
offset	No	Integer	**Definition**: Offset of data records. **Constraints**: N/A **Range**: greater than or equal to 0. **Default Value**: **0**

Request Parameters

None

Response Parameters

Status code: 200

Table 4-162 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. **Range**: Positive integers.
data	Array of **ClusterResponse** objects	**Definition**: Notebook instance data.
pages	Integer	**Definition**: Total number of pages. **Range**: Positive integers.
size	Integer	**Definition**: Number of records on each page. **Range**: Positive integers.
total	Long	**Definition**: Total number of records. **Range**: Non-negative integers.

Table 4-163 ClusterResponse

Parameter	Type	Description
logic_cluster_id	String	**Definition**: Logical resource pool ID. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Resource pool status. **Range**: • **PENDING** • **INITIALIZING** • **INITIALIZE_FAILED** • **ACTIVE** • **DELETING** • **DELETED** • **DELETE_FAILED** • **MIGRATING**
pool_id	String	**Definition**: Resource pool ID. **Range**: N/A
type	String	**Definition**: Resource pool type. **Range**: • **MANAGED**: public pool • **DEDICATED**: dedicated pool
resource_categories	String	**Definition**: Resource type. **Range**: • **GPU** • **CPU** • **ASCEND**
workspace_id	String	**Definition**: Workspace ID. For details about how to obtain the value, see **Obtaining Workspaces**. If no workspace is created, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
create_at	String	**Definition**: UTC time when the instance is created, accurate to millisecond. **Range**: N/A
update_at	String	**Definition**: Time (UTC) when the instance was last updated, accurate to millisecond. **Range**: N/A
project_id	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
domain_id	String	**Definition**: Account ID. **Range**: N/A
flavors	Array of **Flavor** objects	**Definition**: Resource pool flavors.
is_allow_root	Boolean	**Definition**: Specifies whether the resource pool permits starting instances with root user access.

Table 4-164 Flavor

Parameter	Type	Description
arch	String	**Definition**: Hardware architecture type. **Range**: • **x86_64**: x86 architecture • **aarch64**: Arm architecture
billing	**BillingInfo** object	**Definition**: CDR information.
category	String	**Definition**: Processor type. **Range**: • **CPU** • **GPU** • **ASCEND**
description	String	**Definition**: Flavor description. **Range**: N/A
evs_max_size	String	**Definition**: Maximum size (GB) of EVS storage that can be created. **Range**: N/A
evs_sku_code	String	**Definition**: SKU code of EVS storage. **Range**: N/A
feature	String	**Definition**: Flavor type. **Range**: • **DEFAULT**: CodeLab • **NOTEBOOK**: notebook

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
free	Boolean	**Definition**: Indicates whether a free flavor is used. **Range**: Boolean • **true**: free flavor. • **false**: non-free flavor.
grow_support_type	String	**Definition**: Site type. **Range**: • **COMMON**: supported on both the Chinese mainland and International sites • **NATIONAL**: supported only on the Chinese mainland site • **INTERNATIONAL**: supported only on the International site • **NONE**: supported on neither the Chinese mainland nor International sites
id	String	**Definition**: Flavor ID. **Range**: N/A
memory	String	**Definition**: Memory size. **Range**: N/A
name	String	**Definition**: Flavor name. **Range**: N/A
sold_out	Boolean	**Definition**: Indicates whether the flavor is sold out. **Range**: Boolean • **true**: The flavor is sold out. • **false**: The flavor is not sold out.
storages	Array of strings	**Definition**: Storage type supported by the flavor. **Range**: • **EVS** • **OBS**: Object Storage Service • **OBSFS**: parallel file system • **EFS**: SFS Turbo
vcpus	Integer	**Definition**: Number of CPU cores. **Range**: N/A
gpu	**GPUsInfo** object	**Definition**: GPU specifications when the processor type is **GPU**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
ascend	AscendInfo object	**Definition**: Ascend specifications when the processor type is **ASCEND**.

Table 4-165 BillingInfo

Parameter	Type	Description
code	String	**Definition**: Billing code. **Range**: N/A
unit_num	Integer	**Definition**: Billing unit. **Range**: N/A

Table 4-166 GPUsInfo

Parameter	Type	Description
type	String	**Definition**: GPU type. **Range**: N/A
gpu	Double	**Definition**: Number of GPUs. **Range**: N/A
gpu_memory	String	**Definition**: GPU memory. **Range**: N/A

Table 4-167 AscendInfo

Parameter	Type	Description
npu	Integer	**Definition**: Number of NPUs. **Range**: N/A
npu_memory	String	**Definition**: NPU memory. **Range**: N/A
type	String	**Definition**: NPU type. **Range**: N/A

Status code: 401

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-168 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 4-169 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 4-170 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

```
GET /v1/{project_id}/authoring/clusters
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "current" : 0,
  "data" : [ {
    "logic_cluster_id" : "e393b479-bd29-4131-9d89-e8f5d98ea16c",
    "status" : "ACTIVE",
    "pool_id" : "pool-traintest-memarts-06024304be00d5092fbdc0013d201342",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "type" : "DEDICATED",
  "resource_categories" : [ "CPU" ],
  "flavors" : [ {
    "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.",
    "evs_max_size" : "4096",
    "evs_sku_code" : "modelarts.storage.evs.ssd",
    "feature" : "NOTEBOOK",
    "free" : false,
    "grow_support_type" : "INTERNATIONAL",
    "id" : "modelarts.vm.cpu.2u",
    "memory" : 8388608,
    "name" : "CPU: 2 vCPUs 8GB",
    "sold_out" : false,
    "storages" : [ "EFS_DEDICATED", "OBS", "OBSFS", "EVS" ],
    "vcpus" : 2
  }, {
    "arch" : "x86_64",
    "billing" : {
      "code" : "modelarts.vm.cpu.4u",
      "unit_num" : 1
    },
    "category" : "CPU",
    "description" : "General-purpose Intel CPU flavor, ideal for rapid data exploration and experiments.",
    "evs_max_size" : "4096",
    "evs_sku_code" : "modelarts.storage.evs.ssd",
    "feature" : "NOTEBOOK",
    "free" : false,
    "grow_support_type" : "COMMON",
    "id" : "modelarts.vm.cpu.4u",
    "memory" : 16777216,
    "name" : "CPU: 4 vCPUs 16GB",
    "sold_out" : false,
    "storages" : [ "EFS_DEDICATED", "OBS", "OBSFS", "EVS" ],
    "vcpus" : 4
  }, {
    "arch" : "x86_64",
    "billing" : {
      "code" : "modelarts.vm.cpu.8u.2xlarge.predefined",
      "unit_num" : 1
    },
    "category" : "CPU",
    "description" : "General computing-plus Intel CPU flavors, ideal for compute-intensive applications.",
    "evs_max_size" : "4096",
    "evs_sku_code" : "modelarts.storage.evs.ssd",
    "feature" : "NOTEBOOK",
    "free" : false,
    "grow_support_type" : "NONE",
    "id" : "modelarts.vm.cpu.8u.2xlarge.predefined",
    "memory" : 33554432,
    "name" : "CPU: 8 vCPUs 32GB",
    "sold_out" : false,
    "storages" : [ "EFS_DEDICATED", "OBS", "OBSFS", "EVS" ],
    "vcpus" : 8
  } ],
  "workspace_id" : "0",
  "create_at" : 1737690370131,
  "update_at" : 1752722684027,
  "domain_id" : "06024304b180d5090fbac00141b6cae0",
  "project_id" : "06024304be00d5092fbdc0013d201342"
} ],
"pages" : 1,
"size" : 200,
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "total" : 40
}
```

Status Codes

Status Code	Description
200	Request succeeded.
401	Unauthorized.
403	Forbidden.
404	Not found.

Error Codes

See **Error Codes**.

4.15 Obtaining Details About a Notebook Resource Pool

Function

This API is used to obtain details about a notebook resource pool. This API is used when you need to query details about a specified cluster when creating a notebook instance job. Before using this API, ensure that the cluster has been managed and you have the required permission. After this API is called, the system returns the instance ID, name, flavor, instance status, and URL for accessing the cluster. If the cluster does not exist, is not managed, or you do not have the access permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/authoring/clusters/{cluster_id}

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-171 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
cluster_id	Yes	String	**Definition**: ID of the managed cluster. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-172 Response body parameters

Parameter	Type	Description
logic_cluster_id	String	**Definition**: Logical resource pool ID. **Range**: N/A
status	String	**Definition**: Resource pool status. **Range**: • **PENDING** • **INITIALIZING** • **INITIALIZE_FAILED** • **ACTIVE** • **DELETING** • **DELETED** • **DELETE_FAILED** • **MIGRATING**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
pool_id	String	**Definition**: Resource pool ID. **Range**: N/A
type	String	**Definition**: Resource pool type. **Range**: • **MANAGED**: public pool • **DEDICATED**: dedicated pool
resource_categories	String	**Definition**: Resource type. **Range**: • **GPU** • **CPU** • **ASCEND**
workspace_id	String	**Definition**: Workspace ID. For details about how to obtain the value, see **Obtaining Workspaces**. If no workspace is created, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
create_at	String	**Definition**: UTC time when the instance is created, accurate to millisecond. **Range**: N/A
update_at	String	**Definition**: Time (UTC) when the instance was last updated, accurate to millisecond. **Range**: N/A
project_id	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Range**: N/A.
domain_id	String	**Definition**: Account ID. **Range**: N/A
flavors	Array of **Flavor** objects	**Definition**: Resource pool flavors.
is_allow_root	Boolean	**Definition**: Specifies whether the resource pool permits starting instances with root user access.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-173 Flavor

Parameter	Type	Description
arch	String	**Definition**: Hardware architecture type. **Range**: • **x86_64**: x86 architecture • **aarch64**: Arm architecture
billing	**BillingInfo** object	**Definition**: CDR information.
category	String	**Definition**: Processor type. **Range**: • **CPU** • **GPU** • **ASCEND**
description	String	**Definition**: Flavor description. **Range**: N/A
evs_max_size	String	**Definition**: Maximum size (GB) of EVS storage that can be created. **Range**: N/A
evs_sku_code	String	**Definition**: SKU code of EVS storage. **Range**: N/A
feature	String	**Definition**: Flavor type. **Range**: • **DEFAULT**: CodeLab • **NOTEBOOK**: notebook
free	Boolean	**Definition**: Indicates whether a free flavor is used. **Range**: Boolean • **true**: free flavor. • **false**: non-free flavor.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
grow_support_type	String	**Definition**: Site type. **Range**: • **COMMON**: supported on both the Chinese mainland and International sites • **NATIONAL**: supported only on the Chinese mainland site • **INTERNATIONAL**: supported only on the International site • **NONE**: supported on neither the Chinese mainland nor International sites
id	String	**Definition**: Flavor ID. **Range**: N/A
memory	String	**Definition**: Memory size. **Range**: N/A
name	String	**Definition**: Flavor name. **Range**: N/A
sold_out	Boolean	**Definition**: Indicates whether the flavor is sold out. **Range**: Boolean • **true**: The flavor is sold out. • **false**: The flavor is not sold out.
storages	Array of strings	**Definition**: Storage type supported by the flavor. **Range**: • **EVS** • **OBS**: Object Storage Service • **OBSFS**: parallel file system • **EFS**: SFS Turbo
vcpus	Integer	**Definition**: Number of CPU cores. **Range**: N/A
gpu	**GPUsInfo** object	**Definition**: GPU specifications when the processor type is **GPU**.
ascend	**AscendInfo** object	**Definition**: Ascend specifications when the processor type is **ASCEND**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-174 BillingInfo

Parameter	Type	Description
code	String	**Definition**: Billing code. **Range**: N/A
unit_num	Integer	**Definition**: Billing unit. **Range**: N/A

Table 4-175 GPUsInfo

Parameter	Type	Description
type	String	**Definition**: GPU type. **Range**: N/A
gpu	Double	**Definition**: Number of GPUs. **Range**: N/A
gpu_memory	String	**Definition**: GPU memory. **Range**: N/A

Table 4-176 AscendInfo

Parameter	Type	Description
npu	Integer	**Definition**: Number of NPUs. **Range**: N/A
npu_memory	String	**Definition**: NPU memory. **Range**: N/A
type	String	**Definition**: NPU type. **Range**: N/A

Status code: 401

Table 4-177 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status code: 403

Table 4-178 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 4-179 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
200	Request succeeded.
401	Unauthorized.
403	Forbidden.
404	Not found.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

4.16 Querying the Switch and Quota of a Specified Feature of the Current User

Function

This API is used to query the switch status and quota information of a specified feature of the current user. This API is used when you need to know whether a specific feature is enabled, check the quota limit, or monitor the used resources. Before using this API, ensure that you have logged in and have the query permission, and the specified feature must exist. After this API is called, the system returns the details, such as whether the feature is enabled, total quota, and used resources. If you do not have the required permission, the feature does not exist, or the system is abnormal, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/authoring/features/{feature}

Table 4-180 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
feature	Yes	String	**Definition**: Feature name. **Constraints**: N/A **Range** • **NOTEBOOK**: notebook instance explicitly created by you. **Default Value**: **NOTEBOOK**

Request Parameters

None

Response Parameters

Status code: 200

Table 4-181 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: UTC time when the instance is created, accurate to millisecond. **Range**: N/A
enabled	Boolean	**Definition**: Feature switch. **Range**: Boolean • **true**: enable • **false**: disabled.
id	String	**Definition**: Feature ID. **Range**: N/A
name	String	**Definition**: Feature name. **Range**: • **NOTEBOOK**: notebook instance explicitly created by you.
quota	Integer	**Definition**: Feature quota. **Range**: N/A
used	Integer	**Definition**: Feature quota used. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
update_at	Long	**Definition**: Time (UTC) when the instance was last updated, accurate to millisecond. **Range**: N/A
user_id	String	**Definition**: User ID. **Range**: N/A

Status code: 401

Table 4-182 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 4-183 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 4-184 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

None

Example Responses

Status code: 200

Request succeeded.

```
{
  "create_at" : 1597119549430,
  "enabled" : true,
  "id" : "432hkjk3424kh432nb432km543m423m32",
  "name" : "NOTEBOOK",
  "quota" : 1000,
  "update_at" : 1735818559236,
  "used" : 300,
  "user_id" : "43278947598432457983257243532"
}
```

Status Codes

Status Code	Description
200	Request succeeded.
401	Unauthorized.
403	Forbidden.
404	Not found.

Error Codes

See **Error Codes**.

4.17 Obtaining the Notebook Instances with OBS Storage Mounted

Function

This API is used to obtain the OBS parallel file system that can be mounted to a running notebook instance.

This API applies to the following scenario: When you need to mount an OBS parallel file system to the specified file directory of a notebook instance, you can use this API to obtain the list of available OBS parallel file systems. Before using this API, ensure that you have logged in to the system and have the permission to access the target notebook instance and OBS parallel file system. In addition, the notebook instance must be running. After this API is called, the system returns the list of OBS parallel file systems that can be dynamically mounted. If you do not

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

have the permission to access the specified notebook instance or the notebook instance is not running, the API will return an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:notebook:listMountedStorages	List	notebook *	-	-	-
		-	g:EnterpriseProjectId		

URI

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

Table 4-185 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	**Definition**: Notebook instance ID. The ID is in the format of a Universally Unique Identifier (UUID). For details about how to obtain the ID, see **Querying Notebook Instances**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-186 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. **Range**: Positive integers
data	Array of **DataVolumesRes** objects	**Definition**: Dynamically mounted OBS instances.
pages	Integer	**Definition**: Total number of pages. **Range**: Positive integers
size	Integer	**Definition**: Number of records on each page **Range**: Positive integers
total	Long	**Definition**: Total number of records. **Range**: Non-negative integers

Table 4-187 DataVolumesRes

Parameter	Type	Description
category	String	**Definition**: Storage type. The value can be **OBS**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
id	String	**Definition**: ID of the dynamically mounted instance. **Range**: N/A
mount_path	String	**Definition**: Path mounted to the notebook instance. **Range**: N/A
status	String	**Definition**: Status of dynamically mounted OBS storage. **Range**: • **MOUNTING**: being mounted • **MOUNT_FAILED**: mounting failed • **MOUNTED**: mounted • **UNMOUNTING**: being unmounted • **UNMOUNT_FAILED**: unmounting failed • **UNMOUNTED**: unmounted
uri	String	**Definition**: OBS object path. **Range**: N/A

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
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

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

Error Codes

See **Error Codes**.

4.18 OBS Storage Mounting

Function

This API is used to mount an OBS parallel file system to a specified file directory of a running notebook instance.

This API applies to the following scenario: When you need to directly operate files in OBS in a notebook instance, you can use this API to mount the OBS parallel file system to a specified directory of the instance. Then the file system can be read and written. Before using this API, ensure that you have logged in to the system and have the permission to access the target notebook instance and OBS parallel file system. In addition, the notebook instance must be running. After this API is called, the system mounts the specified OBS parallel file system to the notebook instance. You can read and write objects in the OBS parallel file system in the container as a file system. If you do not have the permission to access the specified notebook instance or the notebook instance is not running, the API will return an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:notebook:mountStorage	Write	notebook *	-	-	-
		-	g:EnterpriseProjectId		

URI

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

Table 4-188 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	**Definition**: Notebook instance ID. The ID is in the format of a Universally Unique Identifier (UUID). For details about how to obtain the ID, see **Querying Notebook Instances**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 4-189 Request body parameters

Parameter	Mandatory	Type	Description
category	No	String	**Definition**: Storage type for dynamic mounting. **Constraints**: N/A **Range**: • **OBS**: Object Storage Service **Default Value**: **OBS**
mount_path	No	String	**Definition**: Path mounted to the notebook instance. **Constraints**: N/A **Range**: The value can contain a maximum of 256 characters and must be in the **/data/** subdirectory of the notebook instance. **Default Value**: **/home/ma-user/work/**
uri	No	String	**Definition**: OBS object path, for example, **obs://modelarts/notebook/**. **Constraints**: Valid object path in the OBS parallel file system. **Range**: Up to 256 characters **Default Value**: N/A

Response Parameters

Status code: 200

Table 4-190 Response body parameters

Parameter	Type	Description
category	String	**Definition**: Storage type. The value can be **OBS**. **Range**: N/A
id	String	**Definition**: ID of the dynamically mounted instance. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
mount_path	String	**Definition**: Path mounted to the notebook instance. **Range**: N/A
status	String	**Definition**: Status of dynamically mounted OBS storage. **Range**: • **MOUNTING**: being mounted • **MOUNT_FAILED**: mounting failed • **MOUNTED**: mounted • **UNMOUNTING**: being unmounted • **UNMOUNT_FAILED**: unmounting failed • **UNMOUNTED**: unmounted
uri	String	**Definition**: OBS object path. **Range**: N/A

Status code: 201

Created

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"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

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

Error Codes

See **Error Codes**.

4.19 Obtaining Details About a Notebook Instance with OBS Storage Mounted

Function

This API is used to obtain the details of the OBS parallel file system that has been mounted to a running notebook instance.

This API applies to the following scenario: When you want to view details about an OBS parallel file system that has been mounted to a notebook instance, you can use this API to obtain related information. Before using this API, ensure that you have logged in to the system and have the permission to access the target notebook instance and OBS parallel file system. In addition, the notebook instance must be running. After this API is called, the system returns the details about the OBS parallel file system mounted to the specified notebook instance. If you do not have the permission to access the specified notebook instance or the notebook instance is not running, the API will return an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:notebook:getMountedStorage	Read	notebook *	-	-	-
		-	g:EnterpriseProjectId		

URI

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

Table 4-191 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	**Definition**: Notebook instance ID. The ID is in the format of a Universally Unique Identifier (UUID). For details about how to obtain the ID, see **Querying Notebook Instances**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
storage_id	Yes	String	**Definition**: OBS storage ID. The ID is in the format of a Universally Unique Identifier (UUID). **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

None

Response Parameters

Status code: 200

Table 4-192 Response body parameters

Parameter	Type	Description
category	String	**Definition**: Storage type. The value can be **OBS**. **Range**: N/A
id	String	**Definition**: ID of the dynamically mounted instance. **Range**: N/A
mount_path	String	**Definition**: Path mounted to the notebook instance. **Range**: N/A
status	String	**Definition**: Status of dynamically mounted OBS storage. **Range**: • **MOUNTING**: being mounted • **MOUNT_FAILED**: mounting failed • **MOUNTED**: mounted • **UNMOUNTING**: being unmounted • **UNMOUNT_FAILED**: unmounting failed • **UNMOUNTED**: unmounted
uri	String	**Definition**: OBS object path. **Range**: N/A

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/",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "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**.

4.20 Unmounting OBS Storage from a Notebook Instance

Function

This API is used to unmount an OBS parallel file system from a running notebook instance.

This API applies to the following scenario: When you need to clear or reorganize the resources mounted to a notebook instance, you can use this API to unmount an OBS parallel file system from the instance. Before using this API, ensure that you have logged in to the system and have the permission to access the target notebook instance and OBS parallel file system. In addition, the notebook instance must be running, and have an OBS parallel file system mounted. After this API is called, the system unmounts the specified OBS parallel file system from the notebook instance. The notebook container cannot operate objects in OBS, but objects in OBS remain unchanged. If you do not have the permission to access the specified notebook instance or the notebook instance is not running, the API will return an error message.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:notebook:umountStorage	Write	notebook *	-	-	-
		-	g:EnterpriseProjectId		

URI

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

Table 4-193 Path Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	**Definition**: Notebook instance ID. The ID is in the format of a Universally Unique Identifier (UUID). For details about how to obtain the ID, see **Querying Notebook Instances**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
storage_id	Yes	String	**Definition**: OBS storage ID. The ID is in the format of a Universally Unique Identifier (UUID). **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-194 Response body parameters

Parameter	Type	Description
category	String	**Definition**: Storage type. The value can be **OBS**. **Range**: N/A
id	String	**Definition**: ID of the dynamically mounted instance. **Range**: N/A
mount_path	String	**Definition**: Path mounted to the notebook instance. **Range**: N/A
status	String	**Definition**: Status of dynamically mounted OBS storage. **Range**: • **MOUNTING**: being mounted • **MOUNT_FAILED**: mounting failed • **MOUNTED**: mounted • **UNMOUNTING**: being unmounted • **UNMOUNT_FAILED**: unmounting failed • **UNMOUNTED**: unmounted
uri	String	**Definition**: OBS object path. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status code: 204

No content

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**.

4.21 Querying Supported Images

Function

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

This API applies to the following scenarios: When you need to search for a specific image, manage the image repository, or select an appropriate image version for deployment, you can use this API to obtain the image list that meets the conditions. Before using this API, ensure that there is an image repository and you have the access permission. After a query operation is complete, you can obtain an image list that meets the search criteria. Details about the images can be obtained, including the image ID, name, version, type, status, size, and creation time. If there is no image repository, you have no access permission, or the search criteria are incorrect, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:image:list	List	image *	-	-	-
		-	g:EnterpriseProjectId		

URI

GET /v1/{project_id}/images

Table 4-195 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-196 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	**Description**: Number of image instances displayed on each page **Constraints**: N/A **Range**: Positive integers **Default Value**: **200**
name	No	String	**Description**: Image name **Constraints**: N/A **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. **Default Value**: N/A
name_fuzzy_match	No	Boolean	**Definition**: Whether the image name is used for fuzzy match **Constraints**: N/A **Range**: The value is of the Boolean type. • **true**: Fuzzy match is supported. • **false**: Fuzzy match is not supported. **Default Value**: **true**
namespace	No	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Constraints**: N/A **Range**: The value can contain a maximum of 64 characters and must start with a lowercase letter. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
offset	No	Integer	**Definition**: Start offset of the records on each page **Constraints**: N/A **Range**: Non-negative integers **Default Value**: **0**
service_type	No	String	**Definition**: Supported image types **Constraints**: N/A **Range**: Enums: • **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 **Default Value**: **UNKNOWN**
sort_dir	No	String	**Definition**: Instance sorting mode **Constraints**: N/A **Range**: Enums: • **ASC**: ascending order • **DESC**: descending order **Default Value**: **DESC**
sort_key	No	String	**Definition**: Sorting field. Separate multiple fields with commas (,). **Constraints**: N/A **Range**: The value can contain a maximum of 128 characters. Letters, digits, hyphens (-), underscores (_), and commas (,) are allowed. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
type	No	String	**Definition**: Image type **Constraints**: N/A **Range**: Enums: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved **Default Value**: **BUILD_IN**
workspace_id	No	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Constraints**: N/A **Range**: This value contains 0 or 32 characters. Only digits (0 to 9) or lowercase letters (a to z) are allowed. **Default Value**: **0**

Request Parameters

None

Response Parameters

Status code: 200

Table 4-197 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. **Range**: Positive integers
data	Array of **ImageResponse** objects	**Definition**: Image data that meets the search criteria.
pages	Integer	**Definition**: Total number of pages. **Range**: Positive integers
size	Integer	**Definition**: Number of records on each page **Range**: Positive integers

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
total	Long	**Definition**: Total number of records. **Range**: Non-negative integers

Table 4-198 ImageResponse

Parameter	Type	Description
arch	String	**Definition**: Processor architecture supported by the image. **Range**: • **X86_64**: x86 architecture • **AARCH64**: Arm architecture
create_at	Long	**Definition**: UTC time when the image is created, accurate to millisecond. **Range**: N/A
description	String	**Definition**: Image description with a maximum of 512 characters. **Range**: N/A
dev_services	Array of strings	**Definition**: Services supported by the image. **Range**: • **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	**Definition**: ID of the image used for creating notebook instances. The ID is in Universally Unique Identifier (UUID) format. For details, see **Querying Supported Images**. **Range**: N/A
name	String	**Definition**: Image name. **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
namespace	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Range**: N/A
origin	String	**Definition**: Image source. **Range**: • **CUSTOMIZE**: custom image • **IMAGE_SAVE**: image saved by a notebook instance
resource_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
service_type	String	**Definition**: Supported image types. **Range**: • **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	**Definition**: Image size, in KB. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Image status. **Range**: • **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	**Definition**: Build information during image saving. **Range**: N/A
swr_path	String	**Definition**: SWR image path. **Range**: N/A
tag	String	**Definition**: Image tag. **Range**: N/A
type	String	**Definition**: Image type. **Range**: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved
update_at	Long	**Definition**: Time (UTC) when the image was last updated, accurate to millisecond. **Range**: N/A
visibility	String	**Definition**: Image visibility. **Range**: • **PRIVATE**: private image • **PUBLIC**: All users can perform read-only operations based on **image_id**.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
flavor_type	String	**Definition**: Resource type of the image. **Range**: • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip

Status code: 401

Table 4-199 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 4-200 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 4-201 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

4.22 Registering a Custom Image

Function

This API is used to register a custom image with ModelArts image management.

This API applies to the following scenario: When you need to integrate a custom image (such as a specific algorithm environment, tool chain, or configuration) into ModelArts, you can use this API to register the image with image management for future use. Before using this API, ensure that you have the ModelArts image management permission and valid image path and the required image format are provided. After the registration is complete, the custom image is successfully added to the ModelArts image list. You can use this image subsequently. If the image path is invalid, the image format does not meet the requirements, or you do not have the relevant permission, the API will return an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:image:register	Write	image *	-	-	-
		-	g:EnterpriseProjectId		

URI

POST /v1/{project_id}/images

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-202 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

Table 4-203 Request body parameters

Parameter	Mandatory	Type	Description
arch	No	String	**Definition**: Processor architecture supported by the image. **Constraints**: N/A **Range**: • **X86_64**: x86 architecture • **AARCH64**: Arm architecture **Default Value**: **x86_64**
description	No	String	**Definition**: Image description. **Constraints**: N/A **Range**: Up to 512 characters **Default Value**: N/A
origin	No	String	**Definition**: Image source. This parameter is optional. **Constraints**: N/A **Range**: • **CUSTOMIZE**: custom image • **IMAGE_SAVE**: image saved by a notebook instance **Default Value**: **CUSTOMIZE**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
resource_category	No	Array of strings	**Definition**: Flavor supported by the image. The default value is **CPU** or **GPU**. **Range**: • **CPU** • **GPU** • **ASCEND** **Constraints**: N/A
service_type	No	String	**Definition**: Supported image types. **Constraints**: N/A **Range**: • **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 **Default Value**: **UNKNOWN**
services	No	Array of strings	**Definition**: Services supported by the image. The default value is **NOTEBOOK** or **SSH**. **Range**: • **NOTEBOOK**: You can access a notebook instance using HTTPS. • **SSH**: You can remotely access a notebook instance from a local IDE through SSH. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
swr_path	Yes	String	**Definition**: SWR image path. **Constraints**: N/A **Range**: The value can contain 16 to 2,048 characters. The address format is [repository_address[:port]]/[namespace]/[image_name]:[tag]. **Default Value**: N/A
visibility	No	String	**Definition**: Image visibility. **Constraints**: N/A **Range**: • **PRIVATE**: private image • **PUBLIC**: All users can perform read-only operations based on **image_id**. **Default Value**: **PRIVATE**
workspace_id	No	String	**Definition**: Workspace ID. [For details about how to obtain the ID, see **Querying the Workspace List**.] (tag:hc,hk)If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Constraints**: N/A **Range**: This value must contain 0 or 32 characters. Only digits or lowercase letters are allowed. **Default Value**: **0**
flavor_type	No	String	**Definition**: Resource type. **Constraints**: N/A **Range**: • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 4-204 Response body parameters

Parameter	Type	Description
arch	String	**Definition**: Processor architecture supported by the image. **Range** • **X86_64**: x86 architecture • **AARCH64**: Arm architecture
create_at	Long	**Definition**: UTC time when the image is created, accurate to millisecond. **Range**: N/A
description	String	**Definition**: Image description. **Range**: Up to 512 characters
dev_services	Array of strings	**Definition**: Services supported by the image. **Range**: • **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	**Definition**: ID of the image used for creating notebook instances. The ID is in Universally Unique Identifier (UUID) format. For details, see **Querying Supported Images**. **Range**: N/A
name	String	**Definition**: Image name. **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed.
namespace	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
origin	String	**Definition**: Image source. **Range**: • **CUSTOMIZE**: custom image • **IMAGE_SAVE**: image saved by a notebook instance
resource_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
service_type	String	**Definition**: Supported image types. **Range**: • **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	**Definition**: Image size, in KB. **Range**: N/A
status	String	**Definition**: Image status. **Range**: • **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	**Definition**: Build information during image saving. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
support_res_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
swr_path	String	**Definition**: SWR image path. **Range**: N/A
tag	String	**Definition**: Image tag. **Range**: N/A
type	String	**Definition**: Image type. **Range**: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved
update_at	Long	**Definition**: Time (UTC) when the image was last updated, accurate to millisecond. **Range**: N/A
visibility	String	**Definition**: Image visibility. **Range**: • **PRIVATE**: private image • **PUBLIC**: All users can perform read-only operations based on **image_id**.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
flavor_type	String	**Definition**: Resource type of the image. **Range**: • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip

Status code: 201

Created

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

4.23 Querying the User Image List

Function

This API is used to obtain the overview of user image information. Image names are used for aggregation.

This API applies to the following scenario: When you need to manage multiple images or learn basic information about each image, you can use this API to obtain the image list and overview information. Before using this API, ensure that you have the image management permission and the image exists. After a query operation is complete, you can obtain a list of all images. Details about the images can be obtained, including the image name, version, and status. If the image does not exist or you do not have the access permission, the API will return an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:image:listGroup	List	image *	-	-	-

URI

GET /v1/{project_id}/images/group

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-205 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 4-206 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	**Description**: Image name **Constraints**: N/A **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. **Default Value**: N/A
name_fuzzy_match	No	Boolean	**Definition**: Whether the image name is used for fuzzy match **Constraints**: N/A **Range**: The value is of the Boolean type. • **true**: Fuzzy match is supported. • **false**: Fuzzy match is not supported. **Default Value**: **true**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
namespace	No	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Constraints**: N/A **Range**: The value can contain a maximum of 64 characters and must start with a lowercase letter. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. **Default Value**: N/A
type	No	String	**Definition**: Image type **Constraints**: N/A **Range**: Enums: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved **Default Value**: N/A
workspace_id	No	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. For details about how to obtain the ID, see **Querying the Workspace List**. **Constraints**: N/A **Range**: This value contains 0 or 32 characters. Only digits (0 to 9) or lowercase letters (a to z) are allowed. **Default Value**: **0**

Request Parameters

None

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-207 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. **Range**: Positive integers
data	Array of **ImageGroup** objects	**Definition**: Image information overview.
pages	Integer	**Definition**: Total number of pages. **Range**: Positive integers
size	Integer	**Definition**: Number of records on each page **Range**: Positive integers
total	Long	**Definition**: Total number of records. **Range**: Non-negative integers

Table 4-208 ImageGroup

Parameter	Type	Description
name	String	**Definition**: Image name. **Range**: N/A
create_at	Long	**Definition**: UTC time when the image is created, accurate to millisecond. **Range**: N/A
namespace	String	**Definition**: SWR organization to which the image belongs. **Range**: N/A
update_at	Long	**Definition**: Time (UTC) when the image was last updated, accurate to millisecond. **Range**: N/A
version_count	Integer	**Definition**: Number of image versions. **Range**: N/A

Example Requests

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

Example Responses

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

4.24 Obtaining Details of an Image

Function

This API is used to query image details.

This API applies to the following scenarios: When you need to obtain details about a specified image (such as the image name, version, creation time, size, and status) or perform operations on the image, you can use this API to obtain the image details. Before using this API, ensure that you have the image management permission and the image to be queried is valid and exists. After the query is complete, image details can be obtained, including the image ID, name, version,

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

creation time, size, and status. If the image does not exist or you do not have the access permission, the API will return an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:image:get	Read	image *	-	-	-
		-	g:EnterpriseProjectId		

URI

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

Table 4-209 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Image ID. The ID is in the format of a Universally Unique Identifier (UUID). **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-210 Response body parameters

Parameter	Type	Description
arch	String	**Definition**: Processor architecture supported by the image. **Range** • **X86_64**: x86 architecture • **AARCH64**: Arm architecture
create_at	Long	**Definition**: UTC time when the image is created, accurate to millisecond. **Range**: N/A
description	String	**Definition**: Image description. **Range**: Up to 512 characters
dev_services	Array of strings	**Definition**: Services supported by the image. **Range**: • **NOTEBOOK**: You can access a notebook instance using HTTPS. • **SSH**: You can remotely access a notebook instance from a local IDE through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
id	String	**Definition**: ID of the image used for creating notebook instances. The ID is in Universally Unique Identifier (UUID) format. For details, see **Querying Supported Images**. **Range**: N/A
name	String	**Definition**: Image name. **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed.
namespace	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Range**: N/A
origin	String	**Definition**: Image source. **Range**: • **CUSTOMIZE**: custom image • **IMAGE_SAVE**: image saved by a notebook instance
resource_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
service_type	String	**Definition**: Supported image types. **Range**: • **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	**Definition**: Image size, in KB. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Image status. **Range**: • **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	**Definition**: Build information during image saving. **Range**: N/A
support_res_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
swr_path	String	**Definition**: SWR image path. **Range**: N/A
tag	String	**Definition**: Image tag. **Range**: N/A
type	String	**Definition**: Image type. **Range**: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved
update_at	Long	**Definition**: Time (UTC) when the image was last updated, accurate to millisecond. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
visibility	String	**Definition**: Image visibility. **Range**: • **PRIVATE**: private image • **PUBLIC**: All users can perform read-only operations based on **image_id**.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
flavor_type	String	**Definition**: Resource type of the image. **Range**: • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip

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"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

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

Error Codes

See **Error Codes**.

4.25 Deleting an Image

Function

This API is used to delete an image object. For a private image, you can also delete its SWR image content using parameters.

This API applies to the following scenarios: When an image is no longer required, the configuration is incorrect, or resources need to be cleared, you can use this API to delete the specified image object. Before using this API, ensure that the image exists and you have the permission to delete it. After the deletion is complete, the image object is permanently removed, and related resources and configurations are cleared. If the image does not exist, you do not have the operation permission, or the image is being used, the API will return an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:image:delete	Write	image *	-	-	-
		-	g:EnterpriseProjectId		

URI

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

Table 4-211 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Image ID. The ID is in the format of a Universally Unique Identifier (UUID). **Constraints**: N/A **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-212 Query Parameters

Parameter	Mandatory	Type	Description
force	No	Boolean	**Definition**: Image content to be deleted from SWR. This parameter is valid only for private images. **Constraints**: N/A **Range**: The value is of the Boolean type. • **true**: The image content is deleted. • **false**: The image content is not deleted. **Default Value**: **false**

Request Parameters

None

Response Parameters

Status code: 200

Table 4-213 Response body parameters

Parameter	Type	Description
arch	String	**Definition**: Processor architecture supported by the image. **Range** • **X86_64**: x86 architecture • **AARCH64**: Arm architecture
create_at	Long	**Definition**: UTC time when the image is created, accurate to millisecond. **Range**: N/A
description	String	**Definition**: Image description. **Range**: Up to 512 characters

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
dev_services	Array of strings	**Definition**: Services supported by the image. **Range**: • **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	**Definition**: ID of the image used for creating notebook instances. The ID is in Universally Unique Identifier (UUID) format. For details, see **Querying Supported Images**. **Range**: N/A
name	String	**Definition**: Image name. **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed.
namespace	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Range**: N/A
origin	String	**Definition**: Image source. **Range**: • **CUSTOMIZE**: custom image • **IMAGE_SAVE**: image saved by a notebook instance
resource_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service_type	String	**Definition**: Supported image types. **Range**: • **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	**Definition**: Image size, in KB. **Range**: N/A
status	String	**Definition**: Image status. **Range**: • **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	**Definition**: Build information during image saving. **Range**: N/A
support_res_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
swr_path	String	**Definition**: SWR image path. **Range**: N/A
tag	String	**Definition**: Image tag. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Image type. **Range**: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved
update_at	Long	**Definition**: Time (UTC) when the image was last updated, accurate to millisecond. **Range**: N/A
visibility	String	**Definition**: Image visibility. **Range**: • **PRIVATE**: private image • **PUBLIC**: All users can perform read-only operations based on **image_id**.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
flavor_type	String	**Definition**: Resource type of the image. **Range**: • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip

Status code: 204

No content

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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "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
401	Unauthorized
403	Forbidden

Error Codes

See **Error Codes**.

4.26 Synchronizing the Image Status

Function

This API is used to correct the abnormal image status. This API is used when you need to synchronize the latest image status when the image status is abnormal due to misoperations, network problems, or system faults. Before using this API, ensure that the image exists and you have the required permission. After the synchronization, the image status is updated to the latest correct status, and related resources and configurations are synchronized. If the image does not exist, you do not have the operation permission, or an error occurs during the synchronization, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/images/{image_id}/sync

Table 4-214 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
image_id	Yes	String	**Definition**: Image ID. The ID is in the format of a Universally Unique Identifier (UUID). **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-215 Response body parameters

Parameter	Type	Description
arch	String	**Definition**: Processor architecture supported by the image. **Range** • **X86_64**: x86 architecture • **AARCH64**: Arm architecture

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
create_at	Long	**Definition**: UTC time when the image is created, accurate to millisecond. **Range**: N/A
description	String	**Definition**: Image description. **Range**: Up to 512 characters
dev_services	Array of strings	**Definition**: Services supported by the image. **Range**: • **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	**Definition**: ID of the image used for creating notebook instances. The ID is in Universally Unique Identifier (UUID) format. For details, see **Querying Supported Images**. **Range**: N/A
name	String	**Definition**: Image name. **Range**: The name can contain a maximum of 512 characters. Lowercase letters, digits, hyphens (-), underscores (_), and periods (.) are allowed.
namespace	String	**Definition**: Organization to which the image belongs. You can create and view an organization on the **Organization Management** page of the SWR console. **Range**: N/A
origin	String	**Definition**: Image source. **Range**: • **CUSTOMIZE**: custom image • **IMAGE_SAVE**: image saved by a notebook instance
resource_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service_type	String	**Definition**: Supported image types. **Range**: • **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	**Definition**: Image size, in KB. **Range**: N/A
status	String	**Definition**: Image status. **Range**: • **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	**Definition**: Build information during image saving. **Range**: N/A
support_res_categories	Array of strings	**Definition**: Flavors supported by the image. **Range**: • **CPU** • **GPU** • **ASCEND**
swr_path	String	**Definition**: SWR image path. **Range**: N/A
tag	String	**Definition**: Image tag. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Image type. **Range**: • **BUILD_IN**: built-in system image • **DEDICATED**: image you have saved
update_at	Long	**Definition**: Time (UTC) when the image was last updated, accurate to millisecond. **Range**: N/A
visibility	String	**Definition**: Image visibility. **Range**: • **PRIVATE**: private image • **PUBLIC**: All users can perform read-only operations based on **image_id**.
workspace_id	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Range**: N/A
flavor_type	String	**Definition**: Resource type of the image. **Range**: • **ASCEND_SNT9**: 910 chip • **ASCEND_SNT9B**: 910B chip • **ASCEND_SNT3**: 310 chip

Status code: 401

Table 4-216 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 4-217 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 4-218 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

None

Example Responses

Status code: 200

Request succeeded.


```
{
  "arch" : "x86_64",
  "create_at" : 1638234504492,
  "description" : "CPU and GPU general algorithm development and training, preconfigured with AI engine PyTorch1.8",
  "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"
}
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	Request succeeded.
401	Unauthorized.
403	Forbidden.
404	Not found.

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

5 Training Management

5.1 Creating an Algorithm

Function

This API is used to create an algorithm on ModelArts.

This API applies to the following scenario: When you need to upload a customized algorithm model to the platform and manage it, you can use this API to create an algorithm. Before using this API, ensure that you have prepared the algorithm code and related configuration files and uploaded them to ModelArts, or you have built a custom image and uploaded it to ModelArts. ModelArts adds the algorithm to the algorithm list after verifying that the code path and related configurations are correct. If the algorithm code path or related configurations are incomplete, have wrong format, or you do not have the operation permission, the API will return the corresponding error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:aiAlgorithm:create	Write	aiAlgorithm *	-	-	-

URI

POST /v2/{project_id}/algorithms

Table 5-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

Table 5-2 Request body parameters

Parameter	Mandatory	Type	Description
metadata	No	**AlgorithmMetadata** object	**Definition**: Algorithm metadata, which describes basic algorithm information. **Constraints**: N/A
job_config	No	**AlgorithmJobConfig** object	**Definition**: Algorithm configuration, such as the boot file. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
resource_requirements	No	Array of **ResourceRequirement** objects	**Definition**: 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. **Constraints**: N/A
advanced_config	No	**AlgorithmAdvancedConfig** object	**Definition**: Advanced algorithm policy. • **auto_search** **Constraints**: N/A

Table 5-3 AlgorithmMetadata

Parameter	Mandatory	Type	Description
id	No	Integer	**Definition**: Algorithm ID. You do not need to set this parameter when creating an algorithm. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
name	Yes	String	**Definition**: Algorithm name. **Constraints**: The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-). **Range**: N/A **Default Value**: N/A
description	No	String	**Definition**: Algorithm description. **Constraints**: The value must contain 0 to 256 characters. **Range**: N/A **Default Value**: **NULL**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
workspace_id	No	String	**Definition**: Workspace where a specified algorithm is located. **Constraints**: N/A **Range**: N/A **Default Value**: **0**, which is the default workspace.
ai_project	No	String	**Definition**: AI project to which a specified algorithm belongs. The AI project has been brought offline. Ignore it. **Constraints**: N/A **Range**: N/A **Default Value**: **default-ai-project**

Table 5-4 AlgorithmJobConfig

Parameter	Mandatory	Type	Description
code_dir	No	String	**Definition**: Algorithm code directory, for example, **/usr/app/**. **Constraints**: This parameter must be used with **boot_file**. **Range**: N/A **Default Value**: N/A
boot_file	No	String	**Definition**: Code boot file of the algorithm, which must be stored in the code directory, for example, **/usr/app/boot.py**. **Constraints**: This parameter must be used with **code_dir**. **Range**: N/A **Default Value**: N/A
command	No	String	**Definition**: Container boot command of a custom image algorithm. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
parameters	No	Array of **Parameters** objects	**Definition**: Running parameters of an algorithm. **Constraints**: N/A
inputs	No	Array of **AlgorithmCreateInput** objects	**Definition**: Data input of an algorithm. **Constraints**: N/A
outputs	No	Array of **AlgorithmCreateOutput** objects	**Definition**: Data output of an algorithm. **Constraints**: N/A
engine	No	**AlgorithmCreateEngine** object	**Definition**: Algorithm engine. **Constraints**: N/A
parameters_customization	No	Boolean	**Definition**: Specifies whether the algorithm allows hyperparameter customization during training job creation. **Constraints**: N/A **Range**: • **true**: allowed • **false**: not allowed **Default Value**: N/A

Table 5-5 Parameters

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Parameter name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
value	No	String	**Definition**: Parameter value. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
description	No	String	**Definition**: Parameter description. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
constraint	No	**ParametersConstraint** object	**Definition**: Parameter attribute. **Constraints**: N/A
i18n_description	No	**I18nDescription** object	**Definition**: Internationalization description. **Constraints**: N/A

Table 5-6 ParametersConstraint

Parameter	Mandatory	Type	Description
editable	No	Boolean	**Definition**: Whether the parameter can be edited. **Constraints**: N/A **Range**: • **true**: editable • **false**: Not uneditable **Default Value**: N/A
required	No	Boolean	**Definition**: Whether the parameter is mandatory. **Constraints**: N/A **Range**: • **true**: mandatory • **false**: optional **Default Value**: N/A
sensitive	No	Boolean	**Definition**: Whether the parameter is sensitive. This function is unavailable currently. **Constraints**: N/A **Range**: • **true**: sensitive • **false**: insensitive **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
valid_range	No	Array of strings	**Definition**: Valid range. **Constraints**: N/A

Table 5-7 I18nDescription

Parameter	Mandatory	Type	Description
language	No	String	**Definition**: Internationalization language. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
description	No	String	**Definition**: Description. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-8 AlgorithmCreateInput

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Name of the data input channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
description	No	String	**Definition**: Description of the data input channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
remote_constraints	No	Array of **RemoteConstraint** objects	**Definition**: Data input constraint. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-9 RemoteConstraint

Parameter	Mandatory	Type	Description
attributes	No	Array of Map<String,String> objects	**Definition**: Attributes when the data input type is a dataset. **Range**: • **data_format**: data format • **data_segmentation**: data segmentation method • **dataset_type**: data labeling type **Constraints**: N/A

Table 5-10 AlgorithmCreateOutput

Parameter	Mandatory	Type	Description
name	Yes	String	**Definition**: Name of the data output channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
description	No	String	**Definition**: Description of the data output channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-11 AlgorithmCreateEngine

Parameter	Mandatory	Type	Description
engine_id	No	String	**Definition**: Engine ID selected for an algorithm. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
engine_name	No	String	**Definition**: Engine version name selected for an algorithm. **Constraints**: If **engine_id** is specified, leave this parameter blank. **Range**: N/A **Default Value**: N/A
engine_version	No	String	**Definition**: Engine version name selected for an algorithm. **Constraints**: If **engine_id** is specified, leave this parameter blank. **Range**: N/A **Default Value**: N/A
image_url	No	String	**Definition**: Custom image URL selected for an algorithm. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-12 ResourceRequirement

Parameter	Mandatory	Type	Description
key	No	String	**Definition**: Resource constraints. **Constraints**: N/A **Range**: • **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). **Default Value**: N/A
values	No	Array of strings	**Definition**: Value of the resource constraint key. **Constraints**: N/A
operator	No	String	**Definition**: Key-value relationship. **Constraints**: Only the **in** operation is supported. For example, **flavor_type in [CPU,GPU]**. **Range**: N/A **Default Value**: N/A

Table 5-13 AlgorithmAdvancedConfig

Parameter	Mandatory	Type	Description
auto_search	No	AutoSearch object	**Definition**: Hyperparameter search policy. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-14 AutoSearch

Parameter	Mandatory	Type	Description
skip_search_params	No	String	**Definition**: Hyperparameter parameters that need to be skipped. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
reward_attrs	No	Array of **RewardAttrs** objects	**Definition**: Search metrics. **Constraints**: N/A
search_params	No	Array of **SearchParams** objects	**Definition**: Search parameters. **Constraints**: N/A
algo_configs	No	Array of **AlgoConfigs** objects	**Definition**: Search algorithm configurations. **Constraints**: N/A

Table 5-15 RewardAttrs

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Metric name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
mode	No	String	**Definition**: Search mode. **Constraints**: N/A **Range**: • **max**: A larger metric value is preferred. • **min**: A smaller metric value is preferred. **Default Value**: N/A
regex	No	String	**Definition**: Regular expression of a metric. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-16 SearchParams

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Hyperparameter name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
param_type	No	String	**Definition**: Parameter type. **Constraints**: N/A **Range**: • **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. **Default Value**: N/A
lower_bound	No	String	**Definition**: Lower bound of the hyperparameter. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
upper_bound	No	String	**Definition**: Upper bound of the hyperparameter. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
discrete_points_num	No	String	**Definition**: Number of discrete points of a hyperparameter with continuous values. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
discrete_values	No	Array of strings	**Definition**: Discrete hyperparameter values. **Constraints**: N/A

Table 5-17 AlgoConfigs

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Search algorithm name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
params	No	Array of **AutoSearchAlgoConfigParameter** objects	**Definition**: Search algorithm parameters. **Constraints**: N/A

Table 5-18 AutoSearchAlgoConfigParameter

Parameter	Mandatory	Type	Description
key	No	String	**Definition**: Parameter key. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
value	No	String	**Definition**: Parameter value. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 201

Table 5-19 Response body parameters

Parameter	Type	Description
metadata	**metadata** object	**Definition**: Algorithm metadata, which describes basic algorithm information.
job_config	**job_config** object	**Definition**: Algorithm configuration, such as the boot file.
resource_requirements	Array of **resource_requirements** objects	**Definition**: 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	**advanced_config** object	**Definition**: Advanced algorithm policy. • **auto_search**

Table 5-20 metadata

Parameter	Type	Description
id	Integer	**Definition**: Algorithm ID. You do not need to set this parameter when creating an algorithm. **Range**: N/A
name	String	**Definition**: Algorithm name. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-). **Range**: N/A
description	String	**Definition**: Algorithm description, which consists of 0 to 256 characters. The default value is **NULL**. **Range**: N/A
workspace_id	String	**Definition**: Workspace where a specified algorithm is located. The default value is **0**. **0** is the default workspace. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
ai_project	String	**Definition**: AI project to which a specified algorithm belongs. The default value is **default-ai-project**. The AI project has been brought offline. Ignore it. **Range**: N/A
user_name	String	• **Definition**: Username. **Range**: N/A
domain_id	String	**Definition**: Domain ID of a user. **Range**: N/A
source	String	**Definition**: Algorithm source type. **Range**: N/A
api_version	String	**Definition**: Algorithm API version, which shows whether it is new or old. **Range**: N/A
is_valid	String	**Definition**: Algorithm availability. **Range**: N/A
state	String	**Definition**: Algorithm status. **Range**: N/A
tags	Array of Map<String,String> objects	**Definition**: Algorithm tag.
attr_list	Array of strings	**Definition**: Algorithm attributes.
version_num	Integer	**Definition**: Number of algorithm versions. The default value is **0**. **Range**: N/A
size	Integer	**Definition**: Algorithm size. **Range**: N/A
create_time	Long	**Definition**: Algorithm creation timestamp. **Range**: N/A
update_time	Long	**Definition**: Algorithm update timestamp. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-21 job_config

Parameter	Type	Description
code_dir	String	**Definition**: Algorithm code directory, for example, **/usr/app/**. This parameter must be used together with **boot_file**. **Range**: N/A
boot_file	String	**Definition**: 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**. **Range**: N/A
command	String	**Definition**: Container boot command of a custom image algorithm. **Range**: N/A
parameters	Array of **ParameterResp** objects	**Definition**: Running parameters of an algorithm.
inputs	Array of **inputs** objects	**Definition**: Data input of an algorithm.
outputs	Array of **outputs** objects	**Definition**: Data output of an algorithm.
engine	**engine** object	**Definition**: Algorithm engine.
code_tree	Array of **code_tree** objects	**Definition**: Algorithm directory tree.
parameters_customization	Boolean	**Definition**: Specifies whether the algorithm allows hyperparameter customization during training job creation. **Range**: • **true**: allowed • **false**: not allowed

Table 5-22 ParameterResp

Parameter	Type	Description
name	String	**Definition**: Parameter name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
value	String	**Definition**: Parameter value. **Range**: N/A
description	String	**Definition**: Parameter description. **Range**: N/A
constraint	**constraint** object	**Definition**: Parameter attribute.
i18n_description	**i18n_description** object	**Definition**: Internationalization description.

Table 5-23 constraint

Parameter	Type	Description
editable	Boolean	**Definition**: Whether the parameter can be edited. **Range**: • **true**: editable • **false**: Not uneditable
required	Boolean	**Definition**: Whether the parameter is mandatory. **Range**: • **true**: mandatory • **false**: optional
sensitive	Boolean	**Definition**: Whether the parameter is sensitive. This function is unavailable currently. **Range**: • **true**: sensitive • **false**: insensitive
valid_range	Array of strings	**Definition**: Valid range.

Table 5-24 i18n_description

Parameter	Type	Description
language	String	**Definition**: Internationalization language. The options are as follows: • **zh-cn**: Chinese • **en-us**: English](tag:hc,hk) **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
description	String	**Definition**: Internationalization language description. **Range**: N/A

Table 5-25 inputs

Parameter	Type	Description
name	String	**Definition**: Name of the data input channel. **Range**: N/A
description	String	**Definition**: Description of the data input channel. **Range**: N/A
remote_constraints	Array of **remote_constraints** objects	**Definition**: Data input constraint.

Table 5-26 remote_constraints

Parameter	Type	Description
data_type	String	**Definition**: Data input type, including the data storage location and dataset. **Range**: N/A
attributes	Array of Map<String,String> objects	**Definition**: Attributes when the data input type is a dataset. The value can be: • **data_format**: data format • **data_segmentation**: data segmentation method • **dataset_type**: data labeling type

Table 5-27 outputs

Parameter	Type	Description
name	String	**Definition**: Name of the data output channel. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
description	String	**Definition**: Description of the data output channel. **Range**: N/A

Table 5-28 engine

Parameter	Type	Description
engine_id	String	**Definition**: Engine ID selected for an algorithm. **Range**: N/A
engine_name	String	**Definition**: Engine version name selected for an algorithm. If **engine_id** is specified, leave this parameter blank. **Range**: N/A
engine_version	String	**Definition**: Engine version name selected for an algorithm. If **engine_id** is specified, leave this parameter blank. **Range**: N/A
image_url	String	**Definition**: Custom image URL selected for an algorithm. **Range**: N/A

Table 5-29 code_tree

Parameter	Type	Description
name	String	**Definition**: Name of the current directory in the algorithm directory tree. **Range**: N/A
children	Object	**Definition**: Subfiles and subdirectories in the current directory of the algorithm directory tree.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-30 resource_requirements

Parameter	Type	Description
key	String	**Definition**: Resource constraints. **Range**: • **flavor_type**: Flavor type, which can be **CPU**, **Ascend**, or **GPU**. • **device_distributed_mode**: Specifies whether to support multi-card training. The value can be **multiple** (supported) or **singular** (not supported). • **host_distributed_mode**: Specifies whether to support distributed training. The value can be **multiple** (supported) or **singular** (not supported).
value	Array of strings	**Definition**: Value of the resource constraint key.
operator	String	**Definition**: Relationship between keys and values. Currently, only **in** is supported. For example, **flavor_type in [CPU,GPU]**. **Range**: N/A

Table 5-31 advanced_config

Parameter	Type	Description
auto_search	**auto_search** object	**Definition**: Hyperparameter search policy.

Table 5-32 auto_search

Parameter	Type	Description
skip_search_params	String	**Definition**: Hyperparameter parameters that need to be skipped. **Range**: N/A
reward_attrs	Array of **reward_attrs** objects	**Definition**: Search metrics.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
search_params	Array of **search_params** objects	**Definition**: Search parameters.
algo_configs	Array of **algo_configs** objects	**Definition**: Search algorithm configurations.

Table 5-33 reward_attrs

Parameter	Type	Description
name	String	**Definition**: Metric name. **Range**: N/A
mode	String	**Definition**: Search mode. **Range**: • **max**: A larger metric value is preferred. • **min**: A smaller metric value is preferred.
regex	String	**Definition**: Regular expression of a metric. **Range**: N/A

Table 5-34 search_params

Parameter	Type	Description
name	String	**Definition**: Hyperparameter name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
param_type	String	**Definition**: Parameter type. **Range**: • **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	**Definition**: Lower bound of the hyperparameter. **Range**: N/A
upper_bound	String	**Definition**: Upper bound of the hyperparameter. **Range**: N/A
discrete_points_num	String	**Definition**: Number of discrete points of a hyperparameter with continuous values. **Range**: N/A
discrete_values	String	**Definition**: Discrete hyperparameter values. **Range**: N/A

Table 5-35 algo_configs

Parameter	Type	Description
name	String	**Definition**: Search algorithm name. **Range**: N/A
params	Array of **AutoSearchAlgoConfigParameterResp** objects	**Definition**: Search algorithm parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-36 AutoSearchAlgoConfigParameterResp

Parameter	Type	Description
key	String	**Definition**: Parameter key. **Range**: N/A
value	String	**Definition**: Parameter value. **Range**: N/A

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"
  },
  "advanced_config" : {
    "auto_search" : {
      "algo_configs" : [ {
        "name" : "bayes_opt_search",
        "params" : [ {
          "key" : "kind",
          "value" : "ucb",
          "type" : "String"
        }, {
          "key" : "kappa",
          "value" : "2.5",
          "type" : "Float"
        }, {
          "key" : "xi",
          "value" : "0.0",
          "type" : "Float"
        }, {
          "key" : "num_samples",
          "value" : "20",
          "type" : "Integer"
        }, {
          "key" : "seed",
          "value" : "1",
          "type" : "Integer"
        } ]
      } ],
      "reward_attrs" : [ {
        "name" : "max_search",
        "mode" : "max",
        "regex" : "10.0"
      } ],
      "search_params" : [ {
        "name" : "test_search",
        "lower_bound" : "1",
        "upper_bound" : "10"
      } ]
    }
  },
  "job_config" : {
    "code_dir" : "/algo-test/pytorch/work1/code/",
    "boot_file" : "/algo-test/pytorch/work1/code/test-pytorch.py",
    "parameters" : [ {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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" : [ ]
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    }
  } ],
  "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 obtain the list of all algorithms on ModelArts.

This API applies to the following scenarios: When you need to view all available algorithms on the platform, you can call this API to obtain the algorithm list. Before using this API, ensure that you have the permission to view the algorithm list. After the query is complete, the platform returns an algorithm list. Information such as the algorithm name and ID is displayed. If you do not have the permission to perform operations, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:aiAlgorithm:list	List	-	-	-	-

URI

GET /v2/{project_id}/algorithms

Table 5-37 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-38 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	**Definition**: Offset for querying algorithms **Constraints**: The minimum value is **0**. For example, if this parameter is set to **1**, the query starts from the second one. **Range**: N/A **Default Value**: N/A
limit	No	Integer	**Definition**: Limit of algorithms to be queried **Constraints**: The value ranges from 1 to 50. **Range**: N/A **Default Value**: N/A
sort_by	No	String	**Definition**: Metric for sorting algorithms to be queried **Constraints**: N/A **Range**: N/A **Default Value**: **create_time** is used for sorting by default.
order	No	String	**Definition**: Order of queried algorithms **Constraints**: N/A **Range**: • **asc**: The queried algorithms are sorted in ascending order. • **desc**: The queried algorithms are sorted in descending order. **Default Value**: **desc**
group_by	No	String	**Definition**: Condition for grouping the algorithms to be queried **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
searches	No	String	**Definition**: Filter criteria for querying algorithms, for example, fuzzy match by the algorithm name **Constraints**: N/A **Range**: N/A **Default Value**: N/A
workspace_id	No	String	**Definition**: Workspace ID. **Constraints**: If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. For details about how to obtain the ID, see **Querying the Workspace List**. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-39 Response body parameters

Parameter	Type	Description
total	Integer	**Definition**: Total number of algorithms of the current user. **Range**: N/A
count	Integer	**Definition**: Total number of algorithms that meet the search criteria of the current user. **Range**: N/A
limit	Integer	**Definition**: Maximum number of obtained algorithms of the current user. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
offset	Integer	**Definition**: Offset of all algorithm obtained of the current user. **Range**: N/A
sort_by	String	**Definition**: Fields used to sort obtained algorithms of the current user. **Range**: N/A
order	String	**Definition**: Order of queried algorithms of the current user. **Range**: • **asc**: ascending order • **desc**: descending order.
group_by	String	**Definition**: Grouping mode of obtained algorithms of the current user. **Range**: N/A
items	Array of **AlgorithmResponse** objects	**Definition**: Details of the algorithms that meet the search criteria of the current user.

Table 5-40 AlgorithmResponse

Parameter	Type	Description
metadata	**metadata** object	**Definition**: Algorithm metadata, which describes basic algorithm information.
job_config	**job_config** object	**Definition**: Algorithm configuration, such as the boot file.
resource_requirements	Array of **resource_requirements** objects	**Definition**: 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	**advanced_config** object	**Definition**: Advanced algorithm policy. • **auto_search**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-41 metadata

Parameter	Type	Description
id	Integer	**Definition**: Algorithm ID. You do not need to set this parameter when creating an algorithm. **Range**: N/A
name	String	**Definition**: Algorithm name. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-). **Range**: N/A
description	String	**Definition**: Algorithm description, which consists of 0 to 256 characters. The default value is **NULL**. **Range**: N/A
workspace_id	String	**Definition**: Workspace where a specified algorithm is located. The default value is **0**. **0** is the default workspace. **Range**: N/A
ai_project	String	**Definition**: AI project to which a specified algorithm belongs. The default value is **default-ai-project**. The AI project has been brought offline. Ignore it. **Range**: N/A
user_name	String	• **Definition**: Username. **Range**: N/A
domain_id	String	**Definition**: Domain ID of a user. **Range**: N/A
source	String	**Definition**: Algorithm source type. **Range**: N/A
api_version	String	**Definition**: Algorithm API version, which shows whether it is new or old. **Range**: N/A
is_valid	String	**Definition**: Algorithm availability. **Range**: N/A
state	String	**Definition**: Algorithm status. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
tags	Array of Map<String,String> objects	**Definition**: Algorithm tag.
attr_list	Array of strings	**Definition**: Algorithm attributes.
version_num	Integer	**Definition**: Number of algorithm versions. The default value is **0**. **Range**: N/A
size	Integer	**Definition**: Algorithm size. **Range**: N/A
create_time	Long	**Definition**: Algorithm creation timestamp. **Range**: N/A
update_time	Long	**Definition**: Algorithm update timestamp. **Range**: N/A

Table 5-42 job_config

Parameter	Type	Description
code_dir	String	**Definition**: Algorithm code directory, for example, **/usr/app/**. This parameter must be used together with **boot_file**. **Range**: N/A
boot_file	String	**Definition**: 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**. **Range**: N/A
command	String	**Definition**: Container boot command of a custom image algorithm. **Range**: N/A
parameters	Array of **ParameterResp** objects	**Definition**: Running parameters of an algorithm.
inputs	Array of **inputs** objects	**Definition**: Data input of an algorithm.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
outputs	Array of **outputs** objects	**Definition**: Data output of an algorithm.
engine	**engine** object	**Definition**: Algorithm engine.
code_tree	Array of **code_tree** objects	**Definition**: Algorithm directory tree.
parameters_customization	Boolean	**Definition**: Specifies whether the algorithm allows hyperparameter customization during training job creation. **Range**: • **true**: allowed • **false**: not allowed

Table 5-43 ParameterResp

Parameter	Type	Description
name	String	**Definition**: Parameter name. **Range**: N/A
value	String	**Definition**: Parameter value. **Range**: N/A
description	String	**Definition**: Parameter description. **Range**: N/A
constraint	**constraint** object	**Definition**: Parameter attribute.
i18n_description	**i18n_description** object	**Definition**: Internationalization description.

Table 5-44 constraint

Parameter	Type	Description
editable	Boolean	**Definition**: Whether the parameter can be edited. **Range**: • **true**: editable • **false**: Not uneditable

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
required	Boolean	**Definition**: Whether the parameter is mandatory. **Range**: • **true**: mandatory • **false**: optional
sensitive	Boolean	**Definition**: Whether the parameter is sensitive. This function is unavailable currently. **Range**: • **true**: sensitive • **false**: insensitive
valid_range	Array of strings	**Definition**: Valid range.

Table 5-45 i18n_description

Parameter	Type	Description
language	String	**Definition**: Internationalization language. The options are as follows: • **zh-cn**: Chinese • **en-us**: English](tag:hc,hk) **Range**: N/A
description	String	**Definition**: Internationalization language description. **Range**: N/A

Table 5-46 inputs

Parameter	Type	Description
name	String	**Definition**: Name of the data input channel. **Range**: N/A
description	String	**Definition**: Description of the data input channel. **Range**: N/A
remote_constraints	Array of **remote_constraints** objects	**Definition**: Data input constraint.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-47 remote_constraints

Parameter	Type	Description
data_type	String	**Definition**: Data input type, including the data storage location and dataset. **Range**: N/A
attributes	Array of Map<String,String> objects	**Definition**: Attributes when the data input type is a dataset. The value can be: • **data_format**: data format • **data_segmentation**: data segmentation method • **dataset_type**: data labeling type

Table 5-48 outputs

Parameter	Type	Description
name	String	**Definition**: Name of the data output channel. **Range**: N/A
description	String	**Definition**: Description of the data output channel. **Range**: N/A

Table 5-49 engine

Parameter	Type	Description
engine_id	String	**Definition**: Engine ID selected for an algorithm. **Range**: N/A
engine_name	String	**Definition**: Engine version name selected for an algorithm. If **engine_id** is specified, leave this parameter blank. **Range**: N/A
engine_version	String	**Definition**: Engine version name selected for an algorithm. If **engine_id** is specified, leave this parameter blank. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
image_url	String	**Definition**: Custom image URL selected for an algorithm. **Range**: N/A

Table 5-50 code_tree

Parameter	Type	Description
name	String	**Definition**: Name of the current directory in the algorithm directory tree. **Range**: N/A
children	Object	**Definition**: Subfiles and subdirectories in the current directory of the algorithm directory tree.

Table 5-51 resource_requirements

Parameter	Type	Description
key	String	**Definition**: Resource constraints. **Range**: • **flavor_type**: Flavor type, which can be **CPU**, **Ascend**, or **GPU**. • **device_distributed_mode**: Specifies whether to support multi-card training. The value can be **multiple** (supported) or **singular** (not supported). • **host_distributed_mode**: Specifies whether to support distributed training. The value can be **multiple** (supported) or **singular** (not supported).
value	Array of strings	**Definition**: Value of the resource constraint key.
operator	String	**Definition**: Relationship between keys and values. Currently, only **in** is supported. For example, **flavor_type in [CPU,GPU]**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-52 advanced_config

Parameter	Type	Description
auto_search	**auto_search** object	**Definition**: Hyperparameter search policy.

Table 5-53 auto_search

Parameter	Type	Description
skip_search_params	String	**Definition**: Hyperparameter parameters that need to be skipped. **Range**: N/A
reward_attrs	Array of **reward_attrs** objects	**Definition**: Search metrics.
search_params	Array of **search_params** objects	**Definition**: Search parameters.
algo_configs	Array of **algo_configs** objects	**Definition**: Search algorithm configurations.

Table 5-54 reward_attrs

Parameter	Type	Description
name	String	**Definition**: Metric name. **Range**: N/A
mode	String	**Definition**: Search mode. **Range**: • **max**: A larger metric value is preferred. • **min**: A smaller metric value is preferred.
regex	String	**Definition**: Regular expression of a metric. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-55 search_params

Parameter	Type	Description
name	String	**Definition**: Hyperparameter name. **Range**: N/A
param_type	String	**Definition**: Parameter type. **Range**: • **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	**Definition**: Lower bound of the hyperparameter. **Range**: N/A
upper_bound	String	**Definition**: Upper bound of the hyperparameter. **Range**: N/A
discrete_points_num	String	**Definition**: Number of discrete points of a hyperparameter with continuous values. **Range**: N/A
discrete_values	String	**Definition**: Discrete hyperparameter values. **Range**: N/A

Table 5-56 algo_configs

Parameter	Type	Description
name	String	**Definition**: Search algorithm name. **Range**: N/A
params	Array of **AutoSearchAlgoConfigParameterResp** objects	**Definition**: Search algorithm parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-57 AutoSearchAlgoConfigParameterResp

Parameter	Type	Description
key	String	**Definition**: Parameter key. **Range**: N/A
value	String	**Definition**: Parameter value. **Range**: N/A

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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
        "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 obtain the details of a specified algorithm on ModelArts.

This API applies to the following scenario: When you need to view the detailed configuration and attributes of a specific algorithm, you can use this API to obtain the algorithm details. Before using this API, ensure that you have obtained the algorithm ID and have the permission to view algorithm details. After the query is complete, the platform returns the details, including the algorithm name, description, and version. If the algorithm ID does not exist or you do not have the operation permission, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:aiAlgorithm:get	Read	aiAlgorithm *	-	-	-

URI

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

Table 5-58 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
algorithm_id	Yes	String	**Definition**: Algorithm ID **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

None

Response Parameters

Status code: 200

Table 5-59 Response body parameters

Parameter	Type	Description
metadata	**metadata** object	**Definition**: Algorithm metadata, which describes basic algorithm information.
job_config	**job_config** object	**Definition**: Algorithm configuration, such as the boot file.
resource_requirements	Array of **resource_requirements** objects	**Definition**: 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	**advanced_config** object	**Definition**: Advanced algorithm policy. • **auto_search**

Table 5-60 metadata

Parameter	Type	Description
id	Integer	**Definition**: Algorithm ID. You do not need to set this parameter when creating an algorithm. **Range**: N/A
name	String	**Definition**: Algorithm name. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-). **Range**: N/A
description	String	**Definition**: Algorithm description, which consists of 0 to 256 characters. The default value is **NULL**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
workspace_id	String	**Definition**: Workspace where a specified algorithm is located. The default value is **0**. **0** is the default workspace. **Range**: N/A
ai_project	String	**Definition**: AI project to which a specified algorithm belongs. The default value is **default-ai-project**. The AI project has been brought offline. Ignore it. **Range**: N/A
user_name	String	• **Definition**: Username. **Range**: N/A
domain_id	String	**Definition**: Domain ID of a user. **Range**: N/A
source	String	**Definition**: Algorithm source type. **Range**: N/A
api_version	String	**Definition**: Algorithm API version, which shows whether it is new or old. **Range**: N/A
is_valid	String	**Definition**: Algorithm availability. **Range**: N/A
state	String	**Definition**: Algorithm status. **Range**: N/A
tags	Array of Map<String,String> objects	**Definition**: Algorithm tag.
attr_list	Array of strings	**Definition**: Algorithm attributes.
version_num	Integer	**Definition**: Number of algorithm versions. The default value is **0**. **Range**: N/A
size	Integer	**Definition**: Algorithm size. **Range**: N/A
create_time	Long	**Definition**: Algorithm creation timestamp. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
update_time	Long	**Definition**: Algorithm update timestamp. **Range**: N/A

Table 5-61 job_config

Parameter	Type	Description
code_dir	String	**Definition**: Algorithm code directory, for example, **/usr/app/**. This parameter must be used together with **boot_file**. **Range**: N/A
boot_file	String	**Definition**: 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**. **Range**: N/A
command	String	**Definition**: Container boot command of a custom image algorithm. **Range**: N/A
parameters	Array of **ParameterResp** objects	**Definition**: Running parameters of an algorithm.
inputs	Array of **inputs** objects	**Definition**: Data input of an algorithm.
outputs	Array of **outputs** objects	**Definition**: Data output of an algorithm.
engine	**engine** object	**Definition**: Algorithm engine.
code_tree	Array of **code_tree** objects	**Definition**: Algorithm directory tree.
parameters_customization	Boolean	**Definition**: Specifies whether the algorithm allows hyperparameter customization during training job creation. **Range**: • **true**: allowed • **false**: not allowed

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-62 ParameterResp

Parameter	Type	Description
name	String	**Definition**: Parameter name. **Range**: N/A
value	String	**Definition**: Parameter value. **Range**: N/A
description	String	**Definition**: Parameter description. **Range**: N/A
constraint	**constraint** object	**Definition**: Parameter attribute.
i18n_description	**i18n_description** object	**Definition**: Internationalization description.

Table 5-63 constraint

Parameter	Type	Description
editable	Boolean	**Definition**: Whether the parameter can be edited. **Range**: • **true**: editable • **false**: Not uneditable
required	Boolean	**Definition**: Whether the parameter is mandatory. **Range**: • **true**: mandatory • **false**: optional
sensitive	Boolean	**Definition**: Whether the parameter is sensitive. This function is unavailable currently. **Range**: • **true**: sensitive • **false**: insensitive
valid_range	Array of strings	**Definition**: Valid range.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-64 i18n_description

Parameter	Type	Description
language	String	**Definition**: Internationalization language. The options are as follows: • **zh-cn**: Chinese • **en-us**: English](tag:hc,hk) **Range**: N/A
description	String	**Definition**: Internationalization language description. **Range**: N/A

Table 5-65 inputs

Parameter	Type	Description
name	String	**Definition**: Name of the data input channel. **Range**: N/A
description	String	**Definition**: Description of the data input channel. **Range**: N/A
remote_constraints	Array of **remote_constraints** objects	**Definition**: Data input constraint.

Table 5-66 remote_constraints

Parameter	Type	Description
data_type	String	**Definition**: Data input type, including the data storage location and dataset. **Range**: N/A
attributes	Array of Map<String,String> objects	**Definition**: Attributes when the data input type is a dataset. The value can be: • **data_format**: data format • **data_segmentation**: data segmentation method • **dataset_type**: data labeling type

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-67 outputs

Parameter	Type	Description
name	String	**Definition**: Name of the data output channel. **Range**: N/A
description	String	**Definition**: Description of the data output channel. **Range**: N/A

Table 5-68 engine

Parameter	Type	Description
engine_id	String	**Definition**: Engine ID selected for an algorithm. **Range**: N/A
engine_name	String	**Definition**: Engine version name selected for an algorithm. If **engine_id** is specified, leave this parameter blank. **Range**: N/A
engine_version	String	**Definition**: Engine version name selected for an algorithm. If **engine_id** is specified, leave this parameter blank. **Range**: N/A
image_url	String	**Definition**: Custom image URL selected for an algorithm. **Range**: N/A

Table 5-69 code_tree

Parameter	Type	Description
name	String	**Definition**: Name of the current directory in the algorithm directory tree. **Range**: N/A
children	Object	**Definition**: Subfiles and subdirectories in the current directory of the algorithm directory tree.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-70 resource_requirements

Parameter	Type	Description
key	String	**Definition**: Resource constraints. **Range**: • **flavor_type**: Flavor type, which can be **CPU**, **Ascend**, or **GPU**. • **device_distributed_mode**: Specifies whether to support multi-card training. The value can be **multiple** (supported) or **singular** (not supported). • **host_distributed_mode**: Specifies whether to support distributed training. The value can be **multiple** (supported) or **singular** (not supported).
value	Array of strings	**Definition**: Value of the resource constraint key.
operator	String	**Definition**: Relationship between keys and values. Currently, only **in** is supported. For example, **flavor_type in [CPU,GPU]**. **Range**: N/A

Table 5-71 advanced_config

Parameter	Type	Description
auto_search	**auto_search** object	**Definition**: Hyperparameter search policy.

Table 5-72 auto_search

Parameter	Type	Description
skip_search_params	String	**Definition**: Hyperparameter parameters that need to be skipped. **Range**: N/A
reward_attrs	Array of **reward_attrs** objects	**Definition**: Search metrics.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
search_params	Array of **search_params** objects	**Definition**: Search parameters.
algo_configs	Array of **algo_configs** objects	**Definition**: Search algorithm configurations.

Table 5-73 reward_attrs

Parameter	Type	Description
name	String	**Definition**: Metric name. **Range**: N/A
mode	String	**Definition**: Search mode. **Range**: • **max**: A larger metric value is preferred. • **min**: A smaller metric value is preferred.
regex	String	**Definition**: Regular expression of a metric. **Range**: N/A

Table 5-74 search_params

Parameter	Type	Description
name	String	**Definition**: Hyperparameter name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
param_type	String	**Definition**: Parameter type. **Range**: • **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	**Definition**: Lower bound of the hyperparameter. **Range**: N/A
upper_bound	String	**Definition**: Upper bound of the hyperparameter. **Range**: N/A
discrete_points_num	String	**Definition**: Number of discrete points of a hyperparameter with continuous values. **Range**: N/A
discrete_values	String	**Definition**: Discrete hyperparameter values. **Range**: N/A

Table 5-75 algo_configs

Parameter	Type	Description
name	String	**Definition**: Search algorithm name. **Range**: N/A
params	Array of **AutoSearchAlgoConfigParameterResp** objects	**Definition**: Search algorithm parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-76 AutoSearchAlgoConfigParameterResp

Parameter	Type	Description
key	String	**Definition**: Parameter key. **Range**: N/A
value	String	**Definition**: Parameter value. **Range**: N/A

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,
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "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 the information of an existing algorithm.

This API is used when you need to update the description, tags, and model files of an algorithm. Before using this API, ensure that the algorithm exists and you have the required permission. After the update, the algorithm information is updated, and the related configurations are modified accordingly. If the algorithm does not exist or you do not have the operation permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:aiAlgorithm:update	Write	aiAlgorithm *	-	-	-

URI

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

Table 5-77 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
algorithm_id	Yes	String	**Definition**: Algorithm ID **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 5-78 Request body parameters

Parameter	Mandatory	Type	Description
metadata	No	**AlgorithmMetadata** object	**Definition**: Algorithm metadata, which describes basic algorithm information. **Constraints**: N/A
job_config	No	**AlgorithmJobConfig** object	**Definition**: Algorithm configuration, such as the boot file. **Constraints**: N/A
resource_requirements	No	Array of **ResourceRequirement** objects	**Definition**: 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. **Constraints**: N/A
advanced_config	No	**AlgorithmAdvancedConfig** object	**Definition**: Advanced algorithm policy. • **auto_search** **Constraints**: N/A

Table 5-79 AlgorithmMetadata

Parameter	Mandatory	Type	Description
id	No	Integer	**Definition**: Algorithm ID. You do not need to set this parameter when creating an algorithm. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
name	Yes	String	**Definition**: Algorithm name. **Constraints**: The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-). **Range**: N/A **Default Value**: N/A
description	No	String	**Definition**: Algorithm description. **Constraints**: The value must contain 0 to 256 characters. **Range**: N/A **Default Value**: **NULL**
workspace_id	No	String	**Definition**: Workspace where a specified algorithm is located. **Constraints**: N/A **Range**: N/A **Default Value**: **0**, which is the default workspace.
ai_project	No	String	**Definition**: AI project to which a specified algorithm belongs. The AI project has been brought offline. Ignore it. **Constraints**: N/A **Range**: N/A **Default Value**: **default-ai-project**

Table 5-80 AlgorithmJobConfig

Parameter	Mandatory	Type	Description
code_dir	No	String	**Definition**: Algorithm code directory, for example, **/usr/app/**. **Constraints**: This parameter must be used with **boot_file**. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
boot_file	No	String	**Definition**: Code boot file of the algorithm, which must be stored in the code directory, for example, **/usr/app/boot.py**. **Constraints**: This parameter must be used with **code_dir**. **Range**: N/A **Default Value**: N/A
command	No	String	**Definition**: Container boot command of a custom image algorithm. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
parameters	No	Array of **Parameters** objects	**Definition**: Running parameters of an algorithm. **Constraints**: N/A
inputs	No	Array of **AlgorithmCreateInput** objects	**Definition**: Data input of an algorithm. **Constraints**: N/A
outputs	No	Array of **AlgorithmCreateOutput** objects	**Definition**: Data output of an algorithm. **Constraints**: N/A
engine	No	**AlgorithmCreateEngine** object	**Definition**: Algorithm engine. **Constraints**: N/A
parameters_customization	No	Boolean	**Definition**: Specifies whether the algorithm allows hyperparameter customization during training job creation. **Constraints**: N/A **Range**: • **true**: allowed • **false**: not allowed **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-81 Parameters

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Parameter name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
value	No	String	**Definition**: Parameter value. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
description	No	String	**Definition**: Parameter description. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
constraint	No	**ParametersConstraint** object	**Definition**: Parameter attribute. **Constraints**: N/A
i18n_description	No	**I18nDescription** object	**Definition**: Internationalization description. **Constraints**: N/A

Table 5-82 ParametersConstraint

Parameter	Mandatory	Type	Description
editable	No	Boolean	**Definition**: Whether the parameter can be edited. **Constraints**: N/A **Range**: • **true**: editable • **false**: Not uneditable **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
required	No	Boolean	**Definition**: Whether the parameter is mandatory. **Constraints**: N/A **Range**: • **true**: mandatory • **false**: optional **Default Value**: N/A
sensitive	No	Boolean	**Definition**: Whether the parameter is sensitive. This function is unavailable currently. **Constraints**: N/A **Range**: • **true**: sensitive • **false**: insensitive **Default Value**: N/A
valid_range	No	Array of strings	**Definition**: Valid range. **Constraints**: N/A

Table 5-83 I18nDescription

Parameter	Mandatory	Type	Description
language	No	String	**Definition**: Internationalization language. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
description	No	String	**Definition**: Description. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-84 AlgorithmCreateInput

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Name of the data input channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
description	No	String	**Definition**: Description of the data input channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
remote_constraints	No	Array of **RemoteConstraint** objects	**Definition**: Data input constraint. **Constraints**: N/A

Table 5-85 RemoteConstraint

Parameter	Mandatory	Type	Description
attributes	No	Array of Map<String,String> objects	**Definition**: Attributes when the data input type is a dataset. **Range**: • **data_format**: data format • **data_segmentation**: data segmentation method • **dataset_type**: data labeling type **Constraints**: N/A

Table 5-86 AlgorithmCreateOutput

Parameter	Mandatory	Type	Description
name	Yes	String	**Definition**: Name of the data output channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
description	No	String	**Definition**: Description of the data output channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-87 AlgorithmCreateEngine

Parameter	Mandatory	Type	Description
engine_id	No	String	**Definition**: Engine ID selected for an algorithm. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
engine_name	No	String	**Definition**: Engine version name selected for an algorithm. **Constraints**: If **engine_id** is specified, leave this parameter blank. **Range**: N/A **Default Value**: N/A
engine_version	No	String	**Definition**: Engine version name selected for an algorithm. **Constraints**: If **engine_id** is specified, leave this parameter blank. **Range**: N/A **Default Value**: N/A
image_url	No	String	**Definition**: Custom image URL selected for an algorithm. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-88 ResourceRequirement

Parameter	Mandatory	Type	Description
key	No	String	**Definition**: Resource constraints. **Constraints**: N/A **Range**: • **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). **Default Value**: N/A
values	No	Array of strings	**Definition**: Value of the resource constraint key. **Constraints**: N/A
operator	No	String	**Definition**: Key-value relationship. **Constraints**: Only the **in** operation is supported. For example, **flavor_type in [CPU,GPU]**. **Range**: N/A **Default Value**: N/A

Table 5-89 AlgorithmAdvancedConfig

Parameter	Mandatory	Type	Description
auto_search	No	AutoSearch object	**Definition**: Hyperparameter search policy. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-90 AutoSearch

Parameter	Mandatory	Type	Description
skip_search_params	No	String	**Definition**: Hyperparameter parameters that need to be skipped. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
reward_attrs	No	Array of **RewardAttrs** objects	**Definition**: Search metrics. **Constraints**: N/A
search_params	No	Array of **SearchParams** objects	**Definition**: Search parameters. **Constraints**: N/A
algo_configs	No	Array of **AlgoConfigs** objects	**Definition**: Search algorithm configurations. **Constraints**: N/A

Table 5-91 RewardAttrs

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Metric name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
mode	No	String	**Definition**: Search mode. **Constraints**: N/A **Range**: • **max**: A larger metric value is preferred. • **min**: A smaller metric value is preferred. **Default Value**: N/A
regex	No	String	**Definition**: Regular expression of a metric. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-92 SearchParams

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Hyperparameter name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
param_type	No	String	**Definition**: Parameter type. **Constraints**: N/A **Range**: • **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. **Default Value**: N/A
lower_bound	No	String	**Definition**: Lower bound of the hyperparameter. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
upper_bound	No	String	**Definition**: Upper bound of the hyperparameter. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
discrete_points_num	No	String	**Definition**: Number of discrete points of a hyperparameter with continuous values. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
discrete_values	No	Array of strings	**Definition**: Discrete hyperparameter values. **Constraints**: N/A

Table 5-93 AlgoConfigs

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Search algorithm name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
params	No	Array of **AutoSearchAlgoConfigParameter** objects	**Definition**: Search algorithm parameters. **Constraints**: N/A

Table 5-94 AutoSearchAlgoConfigParameter

Parameter	Mandatory	Type	Description
key	No	String	**Definition**: Parameter key. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
value	No	String	**Definition**: Parameter value. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 201

Table 5-95 Response body parameters

Parameter	Type	Description
metadata	**metadata** object	**Definition**: Algorithm metadata, which describes basic algorithm information.
job_config	**job_config** object	**Definition**: Algorithm configuration, such as the boot file.
resource_requirements	Array of **resource_requirements** objects	**Definition**: 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	**advanced_config** object	**Definition**: Advanced algorithm policy. • **auto_search**

Table 5-96 metadata

Parameter	Type	Description
id	Integer	**Definition**: Algorithm ID. You do not need to set this parameter when creating an algorithm. **Range**: N/A
name	String	**Definition**: Algorithm name. The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-). **Range**: N/A
description	String	**Definition**: Algorithm description, which consists of 0 to 256 characters. The default value is **NULL**. **Range**: N/A
workspace_id	String	**Definition**: Workspace where a specified algorithm is located. The default value is **0**. **0** is the default workspace. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
ai_project	String	**Definition**: AI project to which a specified algorithm belongs. The default value is **default-ai-project**. The AI project has been brought offline. Ignore it. **Range**: N/A
user_name	String	• **Definition**: Username. **Range**: N/A
domain_id	String	**Definition**: Domain ID of a user. **Range**: N/A
source	String	**Definition**: Algorithm source type. **Range**: N/A
api_version	String	**Definition**: Algorithm API version, which shows whether it is new or old. **Range**: N/A
is_valid	String	**Definition**: Algorithm availability. **Range**: N/A
state	String	**Definition**: Algorithm status. **Range**: N/A
tags	Array of Map<String,String> objects	**Definition**: Algorithm tag.
attr_list	Array of strings	**Definition**: Algorithm attributes.
version_num	Integer	**Definition**: Number of algorithm versions. The default value is **0**. **Range**: N/A
size	Integer	**Definition**: Algorithm size. **Range**: N/A
create_time	Long	**Definition**: Algorithm creation timestamp. **Range**: N/A
update_time	Long	**Definition**: Algorithm update timestamp. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-97 job_config

Parameter	Type	Description
code_dir	String	**Definition**: Algorithm code directory, for example, **/usr/app/**. This parameter must be used together with **boot_file**. **Range**: N/A
boot_file	String	**Definition**: 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**. **Range**: N/A
command	String	**Definition**: Container boot command of a custom image algorithm. **Range**: N/A
parameters	Array of **ParameterResp** objects	**Definition**: Running parameters of an algorithm.
inputs	Array of **inputs** objects	**Definition**: Data input of an algorithm.
outputs	Array of **outputs** objects	**Definition**: Data output of an algorithm.
engine	**engine** object	**Definition**: Algorithm engine.
code_tree	Array of **code_tree** objects	**Definition**: Algorithm directory tree.
parameters_customization	Boolean	**Definition**: Specifies whether the algorithm allows hyperparameter customization during training job creation. **Range**: • **true**: allowed • **false**: not allowed

Table 5-98 ParameterResp

Parameter	Type	Description
name	String	**Definition**: Parameter name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
value	String	**Definition**: Parameter value. **Range**: N/A
description	String	**Definition**: Parameter description. **Range**: N/A
constraint	**constraint** object	**Definition**: Parameter attribute.
i18n_description	**i18n_description** object	**Definition**: Internationalization description.

Table 5-99 constraint

Parameter	Type	Description
editable	Boolean	**Definition**: Whether the parameter can be edited. **Range**: • **true**: editable • **false**: Not uneditable
required	Boolean	**Definition**: Whether the parameter is mandatory. **Range**: • **true**: mandatory • **false**: optional
sensitive	Boolean	**Definition**: Whether the parameter is sensitive. This function is unavailable currently. **Range**: • **true**: sensitive • **false**: insensitive
valid_range	Array of strings	**Definition**: Valid range.

Table 5-100 i18n_description

Parameter	Type	Description
language	String	**Definition**: Internationalization language. The options are as follows: • **zh-cn**: Chinese • **en-us**: English](tag:hc,hk) **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
description	String	**Definition**: Internationalization language description. **Range**: N/A

Table 5-101 inputs

Parameter	Type	Description
name	String	**Definition**: Name of the data input channel. **Range**: N/A
description	String	**Definition**: Description of the data input channel. **Range**: N/A
remote_constraints	Array of **remote_constraints** objects	**Definition**: Data input constraint.

Table 5-102 remote_constraints

Parameter	Type	Description
data_type	String	**Definition**: Data input type, including the data storage location and dataset. **Range**: N/A
attributes	Array of Map<String,String> objects	**Definition**: Attributes when the data input type is a dataset. The value can be: • **data_format**: data format • **data_segmentation**: data segmentation method • **dataset_type**: data labeling type

Table 5-103 outputs

Parameter	Type	Description
name	String	**Definition**: Name of the data output channel. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
description	String	**Definition**: Description of the data output channel. **Range**: N/A

Table 5-104 engine

Parameter	Type	Description
engine_id	String	**Definition**: Engine ID selected for an algorithm. **Range**: N/A
engine_name	String	**Definition**: Engine version name selected for an algorithm. If **engine_id** is specified, leave this parameter blank. **Range**: N/A
engine_version	String	**Definition**: Engine version name selected for an algorithm. If **engine_id** is specified, leave this parameter blank. **Range**: N/A
image_url	String	**Definition**: Custom image URL selected for an algorithm. **Range**: N/A

Table 5-105 code_tree

Parameter	Type	Description
name	String	**Definition**: Name of the current directory in the algorithm directory tree. **Range**: N/A
children	Object	**Definition**: Subfiles and subdirectories in the current directory of the algorithm directory tree.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-106 resource_requirements

Parameter	Type	Description
key	String	**Definition**: Resource constraints. **Range**: • **flavor_type**: Flavor type, which can be **CPU**, **Ascend**, or **GPU**. • **device_distributed_mode**: Specifies whether to support multi-card training. The value can be **multiple** (supported) or **singular** (not supported). • **host_distributed_mode**: Specifies whether to support distributed training. The value can be **multiple** (supported) or **singular** (not supported).
value	Array of strings	**Definition**: Value of the resource constraint key.
operator	String	**Definition**: Relationship between keys and values. Currently, only **in** is supported. For example, **flavor_type in [CPU,GPU]**. **Range**: N/A

Table 5-107 advanced_config

Parameter	Type	Description
auto_search	**auto_search** object	**Definition**: Hyperparameter search policy.

Table 5-108 auto_search

Parameter	Type	Description
skip_search_params	String	**Definition**: Hyperparameter parameters that need to be skipped. **Range**: N/A
reward_attrs	Array of **reward_attrs** objects	**Definition**: Search metrics.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
search_params	Array of **search_params** objects	**Definition**: Search parameters.
algo_configs	Array of **algo_configs** objects	**Definition**: Search algorithm configurations.

Table 5-109 reward_attrs

Parameter	Type	Description
name	String	**Definition**: Metric name. **Range**: N/A
mode	String	**Definition**: Search mode. **Range**: • **max**: A larger metric value is preferred. • **min**: A smaller metric value is preferred.
regex	String	**Definition**: Regular expression of a metric. **Range**: N/A

Table 5-110 search_params

Parameter	Type	Description
name	String	**Definition**: Hyperparameter name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
param_type	String	**Definition**: Parameter type. **Range**: • **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	**Definition**: Lower bound of the hyperparameter. **Range**: N/A
upper_bound	String	**Definition**: Upper bound of the hyperparameter. **Range**: N/A
discrete_points_num	String	**Definition**: Number of discrete points of a hyperparameter with continuous values. **Range**: N/A
discrete_values	String	**Definition**: Discrete hyperparameter values. **Range**: N/A

Table 5-111 algo_configs

Parameter	Type	Description
name	String	**Definition**: Search algorithm name. **Range**: N/A
params	Array of **AutoSearchAlgoConfigParameterResp** objects	**Definition**: Search algorithm parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-112 AutoSearchAlgoConfigParameterResp

Parameter	Type	Description
key	String	**Definition**: Parameter key. **Range**: N/A
value	String	**Definition**: Parameter value. **Range**: N/A

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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

5.5 Deleting an Algorithm

Function

This API is used to remove a registered algorithm from ModelArts.

This API applies to the following scenarios: When you need to delete an algorithm that is no longer used, you can use this API to do so. Before using this API, ensure that the algorithm exists and you have the permission to delete it. After the deletion is complete, the algorithm is permanently removed from the platform. If the algorithm ID does not exist or you do not have the operation permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:aiAlgorithm:delete	Write	aiAlgorithm *	-	-	-

URI

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-113 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
algorithm_id	Yes	String	**Definition**: Algorithm ID **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 202

No Content

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

5.6 Creating a Training Job

Function

This API is used to create a training job on ModelArts.

This API applies to the following scenarios: When you need to perform machine learning training based on specific datasets and algorithm models, you can use this API to create and configure a training job. Before using this API, ensure that you have uploaded datasets and model code to ModelArts and have the permission to create training jobs. After a training job is created, the platform starts the training job based on the configured resource specifications. You can monitor the training progress and status by using the job ID. If the dataset or model code does not exist, the resource specifications are incorrectly configured, or you do not have the required permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:trainJob:logExport	Write	trainJob *	-	-	-

URI

POST /v2/{project_id}/training-jobs

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-114 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

Table 5-115 Request body parameters

Parameter	Mandatory	Type	Description
kind	Yes	String	**Definition**: Type of a training job. **Constraints**: N/A **Range** • **job**: common job • **federated_pool_job**: resource pool federated job • **edge_job**: edge job • **hetero_job**: heterogeneous job • **mrs_job**: MRS job • **autosearch_job**: auto search job • **diag_job**: diagnosis job • **visualization_job**: visualization job **Default Value**: **job**
metadata	Yes	**JobMetadata** object	**Definition**: Training job metadata. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
algorithm	No	JobAlgorithm object	**Definition**: Training job algorithm. **Constraints**: The options are as follows. • **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	No	Array of Task objects	**Definition**: Task list. This function is not implemented. **Constraints**: N/A
spec	No	Spec object	**Definition**: Training job specifications. If this parameter is specified, leave the **tasks** parameter blank. **Constraints**: N/A
endpoints	No	JobEndpointsReq object	**Definition**: Configurations required for remotely accessing a training job. **Constraints**: N/A

Table 5-116 JobMetadata

Parameter	Mandatory	Type	Description
name	Yes	String	**Definition**: Name of a training job. **Constraints**: N/A **Range**: The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-). **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
workspace_id	No	String	**Definition**: Workspace where a specified job is located. **Constraints**: N/A **Range**: N/A **Default Value**: **0**
description	No	String	**Definition**: Definition of a training job. **Constraints**: The value must contain 0 to 256 characters. **Range**: N/A **Default Value**: **NULL**
annotations	No	Map<String,String>	**Definition**: Advanced functions of a training job. **Constraints**: The value can be: • **job_template**: **Template RL** (heterogeneous job) • **fault-tolerance/job-retry-num**: **3** (number of retries upon a fault) • **fault-tolerance/job-unconditional-retry**: **true** (unconditional restart) • **fault-tolerance/hang-retry**: **true** (restart upon suspension) • **jupyter-lab/enable**: **true** (JupyterLab training application) • **tensorboard/enable**: **true** (TensorBoard training application) • **mindstudio-insight/enable**: **true** (MindStudio Insight training application) • **fault-tolerance/hccl_op_retry**: **true** (operator retry)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-117 JobAlgorithm

Parameter	Mandatory	Type	Description
id	No	String	**Definition**: Algorithm ID in algorithm management. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
name	No	String	**Definition**: Algorithm name. Leave it blank. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
subscription_id	No	String	**Definition**: Subscription ID of a subscription algorithm. **Constraints**: This parameter must be used with **item_version_id**. **Range**: N/A **Default Value**: N/A
item_version_id	No	String	**Definition**: Version of a subscription algorithm. **Constraints**: This parameter must be used with **subscription_id**. **Range**: N/A **Default Value**: N/A
code_dir	No	String	**Definition**: Code directory of a training job, for example, **/usr/app/**. **Constraints**: This parameter must be used with **boot_file**. Leave this parameter blank if **id**, or **subscription_id** and **item_version_id** are specified. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
boot_file	No	String	**Definition**: Boot file of a training job, which must be stored in the code directory, for example, **/usr/app/boot.py**. **Constraints**: This parameter must be used with **code_dir**. Leave this parameter blank if **id**, or **subscription_id** and **item_version_id** are specified. **Range**: N/A **Default Value**: N/A
autosearch_config_path	No	String	**Definition**: YAML configuration path of an auto search job. An OBS URL is required. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
autosearch_framework_path	No	String	**Definition**: Framework code directory of an auto search job. An OBS URL is required. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
command	No	String	**Definition**: Command for starting the custom image container of a training job. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
parameters	No	Array of **Parameters** objects	**Definition**: Running parameters of the training job. **Constraints**: N/A
policies	No	**JobPolicies** object	**Definition**: Policies supported by jobs, which are used for hyperparameter search. **Constraints**: N/A
inputs	No	Array of **Input** objects	**Definition**: Data input of a training job. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
outputs	No	Array of **Output** objects	**Definition**: Output of the training job. **Constraints**: N/A
engine	No	**JobEngine** object	**Definition**: Engine of a training job. **Constraints**: 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	**Definition**: Local directory of the training container to which the algorithm code directory is downloaded. **Constraints** • 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. • The directory cannot be set to **/home/ma-user/modelarts**, **/home/ma-user/modelarts-dev**, **/home/ma-user/infer**, or their subdirectories, and cannot be set to **/home/ma-user**. **Range**: N/A **Default Value**: N/A
working_dir	No	String	**Definition**: Work directory where an algorithm is executed. **Constraints**: In v1 compatibility mode, the current field does not take effect. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
environments	No	Map<String,String>	**Definition**: Environment variables of a training job. Format: "key":"value" **Constraints**: The key can contain a maximum of 8,192 characters, and the value can contain a maximum of 4,096 characters. A maximum of 100 key-value pairs are allowed. The variable name can contain only letters, digits, and underscores (*), and must start with a letter or underscore (*). Note: Variables cannot contain $.
summary	No	**Summary** object	**Definition**: Visualization log summary. **Constraints**: N/A

Table 5-118 Parameters

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Parameter name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
value	No	String	**Definition**: Parameter value. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
description	No	String	**Definition**: Parameter description. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
constraint	No	**ParametersConstraint** object	**Definition**: Parameter attribute. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
i18n_description	No	I18nDescription object	**Definition**: Internationalization description. **Constraints**: N/A

Table 5-119 ParametersConstraint

Parameter	Mandatory	Type	Description
editable	No	Boolean	**Definition**: Whether the parameter can be edited. **Constraints**: N/A **Range**: • **true**: editable • **false**: Not uneditable **Default Value**: N/A
required	No	Boolean	**Definition**: Whether the parameter is mandatory. **Constraints**: N/A **Range**: • **true**: mandatory • **false**: optional **Default Value**: N/A
sensitive	No	Boolean	**Definition**: Whether the parameter is sensitive. This function is unavailable currently. **Constraints**: N/A **Range**: • **true**: sensitive • **false**: insensitive **Default Value**: N/A
valid_range	No	Array of strings	**Definition**: Valid range. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-120 I18nDescription

Parameter	Mandatory	Type	Description
language	No	String	**Definition**: Internationalization language. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
description	No	String	**Definition**: Description. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-121 JobPolicies

Parameter	Mandatory	Type	Description
auto_search	No	**AutoSearch** object	**Definition**: Hyperparameter search configuration. **Constraints**: N/A

Table 5-122 AutoSearch

Parameter	Mandatory	Type	Description
skip_search_params	No	String	**Definition**: Hyperparameter parameters that need to be skipped. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
reward_attrs	No	Array of **RewardAttrs** objects	**Definition**: Search metrics. **Constraints**: N/A
search_params	No	Array of **SearchParams** objects	**Definition**: Search parameters. **Constraints**: N/A
algo_configs	No	Array of **AlgoConfigs** objects	**Definition**: Search algorithm configurations. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-123 RewardAttrs

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Metric name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
mode	No	String	**Definition**: Search mode. **Constraints**: N/A **Range**: • **max**: A larger metric value is preferred. • **min**: A smaller metric value is preferred. **Default Value**: N/A
regex	No	String	**Definition**: Regular expression of a metric. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-124 SearchParams

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Hyperparameter name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
param_type	No	String	**Definition**: Parameter type. **Constraints**: N/A **Range**: • **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. **Default Value**: N/A
lower_bound	No	String	**Definition**: Lower bound of the hyperparameter. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
upper_bound	No	String	**Definition**: Upper bound of the hyperparameter. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
discrete_points_num	No	String	**Definition**: Number of discrete points of a hyperparameter with continuous values. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
discrete_values	No	Array of strings	**Definition**: Discrete hyperparameter values. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-125 AlgoConfigs

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Search algorithm name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
params	No	Array of **AutoSearchAlgoConfigParameter** objects	**Definition**: Search algorithm parameters. **Constraints**: N/A

Table 5-126 AutoSearchAlgoConfigParameter

Parameter	Mandatory	Type	Description
key	No	String	**Definition**: Parameter key. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
value	No	String	**Definition**: Parameter value. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-127 JobEngine

Parameter	Mandatory	Type	Description
engine_id	No	String	**Definition**: Engine ID selected for a training job. **Constraints**: The value can be **engine_id**, **engine_name + engine_version**, or **image_url**. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
engine_name	No	String	**Definition**: Engine name selected for a training job. **Constraints**: If **engine_id** has been set, you do not need to set this parameter. If you use a preset framework and custom image to create a training job, you must set both this parameter and **image_url**. **Range**: N/A **Default Value**: N/A
engine_version	No	String	**Definition**: Engine version selected for a training job. **Constraints**: If **engine_id** has been set, you do not need to set this parameter. **Range**: N/A **Default Value**: N/A
image_url	No	String	**Definition**: Custom image URL selected for a training job. The URL is obtained from SWR. **Constraints**: The format is organization_name/image_name:tag. **Range**: N/A **Default Value**: N/A
install_sys_packages	No	Boolean	**Definition**: Specifies whether to install the MoXing version specified by the training platform. **Constraints**: This parameter is available only when **engine_name**, **engine_version**, and **image_url** are set. **Range**: • **true**: yes • **false**: no **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-128 Summary

Parameter	Mandatory	Type	Description
log_dir	No	**LogDir** object	**Definition**: Visualization log output of a training job. **Constraints**: This parameter is mandatory when **log_type** is not left empty.
data_sources	No	Array of **DataSource** objects	**Definition**: Visualization log input of the visualization job or training job debugging mode. **Constraints**: This parameter is mandatory when the advanced function **"tensorboard/enable": "true"** or **"mindstudio-insight/enable": "true"** is enabled for the training job.

Table 5-129 LogDir

Parameter	Mandatory	Type	Description
pfs	Yes	**PFSSummary** object	**Definition**: Output of an OBS parallel file system. **Constraints**: N/A

Table 5-130 PFSSummary

Parameter	Mandatory	Type	Description
pfs_path	Yes	String	**Definition**: URL of the OBS parallel file system. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-131 DataSource

Parameter	Mandatory	Type	Description
job	Yes	**JobSummary** object	**Definition**: Job data source. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-132 JobSummary

Parameter	Mandatory	Type	Description
job_id	Yes	String	**Definition**: ID of a training job. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-133 Task

Parameter	Mandatory	Type	Description
role	No	String	**Definition**: Task role. This function is not supported currently. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
algorithm	No	**algorithm** object	**Definition**: Algorithm configurations for algorithm management. **Constraints**: N/A
task_resource	No	**task_resource** object	**Definition**: Resource flavor of a training job. **Constraints**: N/A
log_export_path	No	**log_export_path** object	**Definition**: Saved information about training job logs. **Constraints**: N/A

Table 5-134 algorithm

Parameter	Mandatory	Type	Description
job_config	No	**job_config** object	**Definition**: Algorithm configuration, such as the boot file. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
code_dir	No	String	**Definition**: Algorithm code directory, for example, **/usr/app/**. **Constraints**: This parameter must be used with **boot_file**. **Range**: N/A **Default Value**: N/A
boot_file	No	String	**Definition**: Code boot file of the algorithm, which must be stored in the code directory, for example, **/usr/app/boot.py**. **Constraints**: This parameter must be used with **code_dir**. **Range**: N/A **Default Value**: N/A
engine	No	**engine** object	**Definition**: Algorithm engine of a heterogeneous job. **Constraints**: N/A
inputs	No	Array of **inputs** objects	**Definition**: Data input of an algorithm. **Constraints**: N/A
outputs	No	Array of **outputs** objects	**Definition**: Data output of an algorithm. **Constraints**: N/A
local_code_dir	No	String	**Definition**: Local directory of the training container to which the algorithm code directory is downloaded. **Constraints**: • 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. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
working_dir	No	String	**Definition**: Work directory where an algorithm is executed. **Constraints**: In v1 compatibility mode, the current field does not take effect. **Range**: N/A **Default Value**: N/A
environments	No	Map<String,String>	**Definition**: Environment variables of a training job. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-135 job_config

Parameter	Mandatory	Type	Description
parameters	No	Array of **Parameter** objects	**Definition**: Running parameters of an algorithm. **Constraints**: N/A
inputs	No	Array of **Input** objects	**Definition**: Data input of an algorithm. **Constraints**: N/A
outputs	No	Array of **Output** objects	**Definition**: Data output of an algorithm. **Constraints**: N/A
engine	No	**engine** object	**Definition**: Algorithm engine. **Constraints**: N/A

Table 5-136 Parameter

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Parameter name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
value	No	String	**Definition**: Parameter value. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
description	No	String	**Definition**: Parameter description. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
constraint	No	**constraint** object	**Definition**: Parameter attribute. **Constraints**: N/A
i18n_description	No	**i18n_description** object	**Definition**: Internationalization description. **Constraints**: N/A

Table 5-137 constraint

Parameter	Mandatory	Type	Description
type	No	String	**Definition**: Parameter type. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
editable	No	Boolean	**Definition**: Whether the parameter can be edited. **Constraints**: N/A **Range**: • **true**: editable • **false**: Not uneditable **Default Value**: N/A
required	No	Boolean	**Definition**: Whether the parameter is mandatory. **Constraints**: N/A **Range**: • **true**: mandatory • **false**: optional **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
sensitive	No	Boolean	**Definition**: Whether the parameter is sensitive. **Constraints**: This function is unavailable currently. **Range**: • **true**: sensitive • **false**: insensitive **Default Value**: N/A
valid_type	No	String	**Definition**: Valid type. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
valid_range	No	Array of strings	**Definition**: Valid range. **Constraints**: N/A

Table 5-138 i18n_description

Parameter	Mandatory	Type	Description
language	No	String	**Definition**: Internationalization language. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
description	No	String	**Definition**: Internationalization language description. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-139 Input

Parameter	Mandatory	Type	Description
name	Yes	String	**Definition**: Name of the data input channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
description	No	String	**Definition**: Description of the data input channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
local_dir	No	String	**Definition**: Local path of the container to which the data input channels are mapped. Example: **/home/ma-user/modelarts/inputs/data_url_0** **Constraints**: N/A **Range**: N/A **Default Value**: N/A
access_method	No	String	**Definition**: Access method of the input data channel path (**local_dir**). **Constraints**: N/A **Range**: • **parameter**: hyperparameters • **env**: environment variables **Default Value**: **parameter**
remote	Yes	**InputDataInfo** object	**Definition**: Description of the actual data input. **Constraints**: The options are as follows. • **dataset**: The data input is a dataset. • **obs**: The data input is an OBS path.
remote_constraint	No	Array of **remote_constraint** objects	**Definition**: Data input constraint. **Constraints**: N/A

Table 5-140 InputDataInfo

Parameter	Mandatory	Type	Description
dataset	No	**dataset** object	**Definition**: The input is a dataset. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
obs	No	**obs** object	**Definition**: OBS in which data input and output are stored. **Constraints**: N/A

Table 5-141 dataset

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Dataset ID of a training job. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
version_id	Yes	String	**Definition**: Dataset version ID of a training job. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-142 obs

Parameter	Mandatory	Type	Description
obs_url	Yes	String	**Definition**: OBS URL of the dataset for a training job, For example, **/usr/data/**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-143 remote_constraint

Parameter	Mandatory	Type	Description
data_type	No	String	**Definition**: Data input type, including the data storage location and dataset. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
attributes	No	String	**Definition**: Related attributes. **Constraints**: N/A **Range**: If the input is a dataset: • **data_format**: data format • **data_segmentation**: data segmentation method • **dataset_type**: data labeling type **Default Value**: N/A

Table 5-144 Output

Parameter	Mandatory	Type	Description
name	Yes	String	**Definition**: Name of the data output channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
description	No	String	**Definition**: Description of the data output channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
local_dir	No	String	**Definition**: Local path of the container to which the data output channels are mapped. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
access_method	No	String	**Definition**: Access method of the output data channel path (**local_dir**). **Constraints**: N/A **Range**: • **parameter**: hyperparameters • **env**: environment variables **Default Value**: **parameter**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
remote	Yes	**Remote** object	**Definition**: Description of the actual data output. **Constraints**: N/A

Table 5-145 Remote

Parameter	Mandatory	Type	Description
obs	Yes	**RemoteObs** object	**Definition**: Data actually output to OBS. **Constraints**: N/A

Table 5-146 RemoteObs

Parameter	Mandatory	Type	Description
obs_url	Yes	String	**Definition**: Path of the data output to OBS. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-147 engine

Parameter	Mandatory	Type	Description
engine_id	No	String	**Definition**: Engine ID selected for an algorithm. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
engine_name	No	String	**Definition**: Engine name selected for an algorithm. **Constraints**: If **engine_id** is specified, leave this parameter blank. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
engine_version	No	String	**Definition**: Engine version selected for an algorithm. **Constraints**: If **engine_id** is specified, leave this parameter blank. **Range**: N/A **Default Value**: N/A
image_url	No	String	**Definition**: Custom image URL selected for an algorithm. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-148 engine

Parameter	Mandatory	Type	Description
engine_id	No	String	**Definition**: ID of the engine flavor of a heterogeneous job, for example, **caffe-1.0.0-python2.7**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
engine_name	No	String	**Definition**: Name of the engine flavor of a heterogeneous job, for example, **Caffe**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
engine_version	No	String	**Definition**: Version of the engine flavor of a heterogeneous job. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
image_url	No	String	**Definition**: Custom image URL selected for an algorithm. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
run_user	No	String	**Definition**: Container image startup user. The default value is 1000. This parameter can be configured only when a custom image is used. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-149 inputs

Parameter	Mandatory	Type	Description
name	Yes	String	**Definition**: Name of the data input channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
description	No	String	**Definition**: Description of the data input channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
local_dir	No	String	**Definition**: Local path of the container to which the data input channels are mapped. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
remote	Yes	**remote** object	**Definition**: Description of the actual data input. **Constraints**: The options are as follows: • **dataset**: The data input is a dataset. • **obs**: The data input is an OBS path.

Table 5-150 remote

Parameter	Mandatory	Type	Description
obs	No	**obs** object	**Definition**: OBS in which data input and output are stored. **Constraints**: N/A

Table 5-151 obs

Parameter	Mandatory	Type	Description
obs_url	Yes	String	**Definition**: OBS URL of the dataset for a training job, For example, **/usr/data/**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-152 outputs

Parameter	Mandatory	Type	Description
name	Yes	String	**Definition**: Name of the data output channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
description	No	String	**Definition**: Description of the data output channel. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
local_dir	No	String	**Definition**: Local path of the container to which the data output channels are mapped. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
remote	Yes	**remote** object	**Definition**: Description of the actual data output. **Constraints**: N/A

Table 5-153 remote

Parameter	Mandatory	Type	Description
obs	Yes	**obs** object	**Definition**: Data actually output to OBS. **Constraints**: N/A

Table 5-154 obs

Parameter	Mandatory	Type	Description
obs_url	Yes	String	**Definition**: Path of the data output to OBS. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-155 task_resource

Parameter	Mandatory	Type	Description
flavor_id	No	String	**Definition**: ID of the resource flavor selected for a training job. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
node_count	Yes	Integer	**Definition**: Number of resource replicas selected for a training job. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_id	No	String	**Definition**: ID of the resource pool selected for a training task. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-156 log_export_path

Parameter	Mandatory	Type	Description
obs_url	No	String	**Definition**: OBS path for storing training job logs. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-157 Spec

Parameter	Mandatory	Type	Description
resource	No	**SpecResource** object	**Definition**: Resource flavor of a training job. **Constraints**: Select either **flavor_id or pool_id** or **flavor_id**. • If you select a public resource pool, only **flavor_id** is needed. Select the number of PUs and memory your training job needs. If the public resource pool has enough idle resources, your job will be scheduled. • If you select a dedicated resource pool, both **pool_id** and **flavor_id** are needed. Select the smallest number of PUs that meet your training needs to save resources and boost efficiency.
volumes	No	Array of **SpecVolumes** objects	**Definition**: Mounting volume information of a training job. **Constraints**: N/A
log_export_path	No	**LogExportPath** object	**Definition**: Log output of a training job. **Constraints**: N/A
auto_stop	No	**AutoStop** object	**Definition**: Auto stop configuration of a training job. **Constraints**: N/A
schedule_policy	No	**SchedulePolicy** object	**Definition**: Scheduling policy of a training job. **Constraints**: N/A
notification	No	**Notification** object	**Definition**: Message notification of a training event. **Constraints**: N/A
custom_metrics	No	Array of **CustomMetrics** objects	**Definition**: Metric collection configuration.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-158 SpecResource

Parameter	Mandatory	Type	Description
flavor_id	No	String	**Definition**: ID of the resource flavor of a training job. **Constraints**: N/A **Range**: The **flavor_id** parameter cannot be specified for a dedicated resource pool of CPU specifications. The options for dedicated resource pools with GPU/Ascend specifications are as follows: • **modelarts.pool.visual.xlarge** (1 PU) • **modelarts.pool.visual.2xlarge** (2 PUs) • **modelarts.pool.visual.4xlarge** (4 PUs) • **modelarts.pool.visual.8xlarge** (8 PUs) • **modelarts.pool.visual.16xlarge** (16 cards, only for the Snt9b23 supernode resource pool) **Default Value**: N/A
node_count	No	Integer	**Definition**: Number of nodes used to create a training job in a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: single node
pool_id	No	String	**Definition**: Dedicated resource pool ID. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_group_id	No	String	**Definition**: Resource pool federation ID. **Constraints**: This parameter is mandatory when **kind** is set to **federated_pool_job**. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
main_container_customized_flavor	No	**MainContainerCustomizedFlavor** object	**Definition**: Custom flavor. **Constraints**: N/A **Range**: The number of CPU cores and memory size must be greater than 0, and the number of accelerator PUs must be greater than or equal to 0. **Default Value**: N/A

Table 5-159 MainContainerCustomizedFlavor

Parameter	Mandatory	Type	Description
cpu_core_num	No	Float	**Definition**: Number of CPU cores. **Range**: greater than 0
mem_size	No	Float	**Definition**: Memory size. **Range**: greater than 0
accelerator_num	No	Float	**Definition**: Number of accelerator cards. **Range**: greater than or equal to 0

Table 5-160 SpecVolumes

Parameter	Mandatory	Type	Description
nfs	No	**Nfs** object	**Definition**: NFS mounting volume information of a training job. **Constraints**: N/A
pfs	No	**Pfs** object	**Definition**: obsfs mounting volume information of a training job. **Constraints**: N/A
obs	No	**Obs** object	**Definition**: OBS mounting volume information of a training job. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-161 Nfs

Parameter	Mandatory	Type	Description
nfs_server_path	No	String	**Definition**: NFS server path, for example, **10.10.10.10:/example/path**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
local_path	No	String	**Definition**: Path for attaching volumes to the training container, for example, **/example/path**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
read_only	No	Boolean	**Definition**: Specifies whether the disks attached to the container in NFS mode are read-only. **Constraints**: N/A **Range**: • **true**: read only • **false**: non-read-only **Default Value**: N/A

Table 5-162 Pfs

Parameter	Mandatory	Type	Description
pfs_path	No	String	**Definition**: Address of obsfs. For example, **/test-bucket/path**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
local_path	No	String	**Definition**: Path for attaching volumes to the training container, for example, **/example/path**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-163 Obs

Parameter	Mandatory	Type	Description
obs_path	No	String	**Definition**: OBS path to be mounted. For example, **/test-bucket/path**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
local_path	No	String	**Definition**: Path for attaching volumes to the training container, for example, **/example/path**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-164 LogExportPath

Parameter	Mandatory	Type	Description
obs_url	No	String	**Definition**: OBS path for storing training job logs, for example, **obs://example/path**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
host_path	No	String	**Definition**: Path of the host where training job logs are stored, for example, **/example/path**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-165 AutoStop

Parameter	Mandatory	Type	Description
time_unit	Yes	String	**Definition**: Time unit. **Constraints**: N/A **Range**: • **HOURS**: hour **Default Value**: N/A
duration	Yes	Integer	**Definition**: Runtime. **Constraints**: N/A • **Range**: The minimum value is **1**. **Default Value**: N/A

Table 5-166 SchedulePolicy

Parameter	Mandatory	Type	Description
required_affinity	No	**RequiredAffinity** object	**Definition**: Affinity requirements of a training job. **Constraints**: N/A
priority	No	Integer	**Definition**: Priority of a training job. **Constraints**: • The priority can be set for a training job only when a dedicated resource pool is used. • The value ranges from **1** to **3**. The default priority is **1**, and the highest priority is **3**. By default, the job priority can be set to **1** or **2**. After the permission to set the highest job priority is configured, the priority can be set to **1** to **3**. **Range**: **0** to **3** **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
preemptible	No	Boolean	**Definition**: Whether the resource can be preempted. **Constraints**: N/A **Range**: • **true**: The resource can be preempted. • **false**: The resource cannot be preempted. **Default Value**: N/A

Table 5-167 RequiredAffinity

Parameter	Mandatory	Type	Description
affinity_type	No	String	**Definition**: Affinity scheduling policy. **Constraints**: N/A **Range**: • **cabinet**: strong cabinet scheduling • **hyperinstance**: supernode affinity scheduling **Default Value**: N/A
affinity_group_size	No	Integer	**Definition**: Size of an affinity group. **Constraints**: This parameter is mandatory when **affinity_type** is set to **hyperinstance**. In this case, the system schedules tasks specified by **affinity_group_size** to a supernode to form an affinity group. When a user delivers a training job to the supernode resource pool, if the affinity group size is not set, the system sets the value to **1** by default. **Range**: N/A **Default Value**: **1**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-168 Notification

Parameter	Mandatory	Type	Description
topic_urn	No	String	**Definition**: URN of the selected topic in SMN. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
events	No	Array of strings	**Definition**: Training event that triggers a notification. **Constraints**: The options are as follows: • **JobStarted**: The job is started. • **JobCompleted**: The job is completed. • **JobFailed**: The job is failed. • **JobTerminated**: The job is terminated. • **JobRestarted**: The job is restarted. • **JobHanged**: The job is suspended. • **JobPreempted**: The job is preempted.

Table 5-169 CustomMetrics

Parameter	Mandatory	Type	Description
exec	No	**Exec** object	**Definition**: Metrics are collected in CLI mode.
http_get	No	**HttpGet** object	**Definition**: Metrics are collected in HTTP mode.

Table 5-170 Exec

Parameter	Mandatory	Type	Description
command	No	Array of strings	**Definition**: Metrics are collected in CLI mode.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-171 HttpGet

Parameter	Mandatory	Type	Description
path	No	String	**Definition**: URL for obtaining metrics over HTTP. Both the URL and the port below must either be configured together or remain empty. **Range**: N/A
port	No	Integer	**Definition**: Port for obtaining metrics over HTTP. This parameter and the URL above must be set or left blank at the same time. **Range**: N/A

Table 5-172 JobEndpointsReq

Parameter	Mandatory	Type	Description
ssh	No	**SSHReq** object	**Definition**: SSH connection information. **Constraints**: N/A

Table 5-173 SSHReq

Parameter	Mandatory	Type	Description
key_pair_names	No	Array of strings	**Definition**: Name of the SSH key pair, which can be created and viewed on the **Key Pair** page of the Elastic Cloud Server (ECS) console. **Constraints**: N/A

Response Parameters

Status code: 201

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-174 Response body parameters

Parameter	Type	Description
kind	String	**Definition**: Type of a training job. **Range** • **job**: common job • **federated_pool_job**: resource pool federated job • **edge_job**: edge job • **hetero_job**: heterogeneous job • **mrs_job**: MRS job • **autosearch_job**: auto search job • **diag_job**: diagnosis job • **visualization_job**: visualization job
metadata	**JobMetadataResponse** object	**Definition**: Training job metadata.
status	**Status** object	**Definition**: Training job status information.
algorithm	**JobAlgorithmResponse** object	**Definition**: Training job algorithm.
tasks	Array of **TaskResponse** objects	**Definition**: Heterogeneous training tasks.
spec	**SpecResponse** object	**Definition**: Training job specifications.
endpoints	**JobEndpointsResp** object	**Definition**: Configurations required for remotely accessing a training job.

Table 5-175 JobMetadataResponse

Parameter	Type	Description
id	String	**Definition**: Training job ID, which is generated and returned by ModelArts after a training job is created. **Range**: N/A
name	String	**Definition**: Name of a training job. **Range**: The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
workspace_id	String	**Definition**: Workspace where a specified job is located. **Range**: N/A
description	String	**Definition**: Definition of a training job. **Range**: N/A
create_time	Long	**Definition**: Time when a training job was created, in milliseconds. The value is generated and returned by ModelArts after a training job is created. **Range**: N/A
user_name	String	**Definition**: Username for creating a training job. The username is generated and returned by ModelArts after a training job is created. **Range**: N/A
annotations	Map<String,String>	**Definition**: Advanced functions of a training job.

Table 5-176 Status

Parameter	Type	Description
phase	String	**Definition**: Level-1 status of a training job. **Range**: • **Creating**: The job is being created. • **Pending**: The job is pending. • **Running**: The job is running. • **Failed**: The job failed to run. • **Completed**: The job is complete. • **Terminating**: The job is being stopped. • **Terminated**: The job has been stopped. • **Abnormal**: The job is abnormal.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
secondary_phase	String	**Definition**: 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. **Range**: • **Creating**: The job is being created. • **Queuing**: The job is queuing. • **Running**: The job is running. • **Failed**: The job failed to run. • **Completed**: The job is complete. • **Terminating**: The job is being stopped. • **Terminated**: The job has been stopped. • **CreateFailed**: The job fails to be created. • **TerminatedFailed**: The job fails to be stopped. • **Unknown**: The job is in an unknown state. • **Lost**: The job is abnormal.
duration	Long	**Definition**: Running duration of a training job, in ms. **Range**: N/A
node_count_metrics	Array<Array<Integer>>	**Definition**: Node quantity change metric during a training job runtime.
tasks	Array of strings	**Definition**: Training job subtask name.
start_time	Long	**Definition**: Timestamp when a training job is started. **Range**: N/A
task_statuses	Array of **TaskStatuses** objects	**Definition**: Status of the first failed subtask of a training job.
running_records	Array of **RunningRecord** objects	**Definition**: Running and fault recovery records of a training job.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-177 TaskStatuses

Parameter	Type	Description
task	String	**Definition**: Training job subtask name. **Range**: N/A
exit_code	Integer	**Definition**: Exit code of a training job subtask. **Range**: N/A
message	String	**Definition**: Error message of a training job subtask. **Range**: N/A

Table 5-178 RunningRecord

Parameter	Type	Description
start_at	Integer	**Definition**: Unix timestamp of the start time in the current running record, in seconds. **Range**: N/A
end_at	Integer	**Definition**: Unix timestamp of the end time in the current running record, in seconds. **Range**: N/A
xpu_start_at	Integer	**Definition**: Unix timestamp of the accelerator card startup time in the current running record, in seconds. **Range**: N/A
start_type	String	**Definition**: Startup mode of the current execution. **Range** • **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	**Definition**: Reason why the running ends. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
end_related_task	String	**Definition**: ID of the task worker (for example, **worker-0**) that ends the running. **Range**: N/A
end_recover	String	**Definition**: Fault tolerance policy adopted when the execution ends abnormally. **Range** • **npu_proc_restart**: NPU in-place hot recovery • **proc_restart**: in-place process recovery • **npu_step_retry**: step recomputation • **pod_reschedule**: pod-level rescheduling • **job_reschedule**: job-level rescheduling • **job_reschedule_with_taint**: isolated job-level rescheduling
end_recover_before_downgrade	String	**Definition**: There is a downgrade relationship between policies. If a policy fails to be executed, it will be downgraded to another specified policy. **end_recover_before_downgrade** indicates the tolerance policy used before **end_recover** is downgraded. **Range**: same as that of **end_recover**.
recover_records	Array of **RecoverRecord** objects	**Definition**: details about all fault tolerance policies adopted when the execution ends abnormally.

Table 5-179 RecoverRecord

Parameter	Type	Description
recover_start_at	Integer	Unix timestamp of the start time of the fault tolerance policy, in seconds. The timestamp is also the fault occurrence time.
recover_end_at	Integer	Unix timestamp of the end time of the fault tolerance policy, in seconds.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
recover	String	Fault tolerance policy. Options: • **npu_step_retry**: step recomputation • **npu_proc_restart**: NPU in-place hot recovery • **proc_restart**: in-place process recovery • **pod_reschedule**: pod-level rescheduling • **job_reschedule**: job-level rescheduling • **job_reschedule_with_taint**: isolated job-level rescheduling
fault_scenario	String	Fault scenario. Options: • **chip_fault**: chip fault • **node_fault**: node fault • **job_failed**: job exit upon a failure • **job_hanged**: job suspension • **job_subhealth**: job subhealth • **error_in_log**: log exception
reason	String	Cause of the fault.
related_task	String	ID of the task worker that causes the end of the current running record, for example, **worker-0**.
recover_result	String	Execution result of the fault. Options: • **recovering**: executing • **success**: successful • **failed**: failed • **downgrade**: policy downgrade

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-180 JobAlgorithmResponse

Parameter	Type	Description
id	String	**Definition**: Training job algorithm. **Range**: • **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	**Definition**: Algorithm name. **Range**: N/A
subscription_id	String	**Definition**: Subscription ID of a subscription algorithm, which must be used with **item_version_id**. **Range**: N/A
item_version_id	String	**Definition**: Version of a subscription algorithm, which must be used with **subscription_id**. **Range**: N/A
code_dir	String	**Definition**: Code directory of a training job, for example, **/usr/app/**. This parameter must be used with **boot_file**. Leave this parameter blank if **id**, or **subscription_id** and **item_version_id** are specified. **Range**: N/A
boot_file	String	**Definition**: 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. **Range**: N/A
autosearch_config_path	String	**Definition**: YAML configuration path of an auto search job. An OBS URL is required. For example, **obs://bucket/file.yaml**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
autosearch_framework_path	String	**Definition**: Framework code directory of an auto search job. An OBS URL is required. For example, **obs://bucket/files/**. **Range**: N/A
command	String	**Definition**: Boot command for starting the container of a custom image for a training job. For example, **python train.py**. **Range**: N/A
parameters	Array of **ParameterResp** objects	**Definition**: Running parameters of the training job.
policies	**policies** object	**Definition**: Policy supported by a job.
inputs	Array of **InputResp** objects	**Definition**: Data input of a training job.
outputs	Array of **OutputResp** objects	**Definition**: Output of the training job.
engine	**JobEngineResp** object	**Definition**: 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	**Definition**: Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: • 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. **Range**: N/A
working_dir	String	**Definition**: Work directory where an algorithm is executed. Rules: In v1 compatibility mode, this parameter does not take effect. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
environments	Array of Map<String,String> objects	**Definition**: Environment variables of a training job. The format is **key:value**. Leave this parameter blank.
summary	**SummaryResp** object	**Definition**: Visualization log summary.

Table 5-181 ParameterResp

Parameter	Type	Description
name	String	**Definition**: Parameter name. **Range**: N/A
value	String	**Definition**: Parameter value. **Range**: N/A
description	String	**Definition**: Parameter description. **Range**: N/A
constraint	**constraint** object	**Definition**: Parameter attribute.
i18n_description	**i18n_description** object	**Definition**: Internationalization description.

Table 5-182 constraint

Parameter	Type	Description
editable	Boolean	**Definition**: Whether the parameter can be edited. **Range**: • **true**: editable • **false**: Not uneditable
required	Boolean	**Definition**: Whether the parameter is mandatory. **Range**: • **true**: mandatory • **false**: optional

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sensitive	Boolean	**Definition**: Whether the parameter is sensitive. This function is unavailable currently. **Range**: • **true**: sensitive • **false**: insensitive
valid_range	Array of strings	**Definition**: Valid range.

Table 5-183 i18n_description

Parameter	Type	Description
language	String	**Definition**: Internationalization language. The options are as follows: • **zh-cn**: Chinese • **en-us**: English](tag:hc,hk) **Range**: N/A
description	String	**Definition**: Internationalization language description. **Range**: N/A

Table 5-184 policies

Parameter	Type	Description
auto_search	**auto_search** object	**Definition**: Hyperparameter search configuration.

Table 5-185 auto_search

Parameter	Type	Description
skip_search_params	String	**Definition**: Hyperparameter parameters that need to be skipped. **Range**: N/A
reward_attrs	Array of **reward_attrs** objects	**Definition**: Search metrics.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
search_params	Array of **search_params** objects	**Definition**: Search parameters.
algo_configs	Array of **algo_configs** objects	**Definition**: Search algorithm configurations.

Table 5-186 reward_attrs

Parameter	Type	Description
name	String	**Definition**: Metric name. **Range**: N/A
mode	String	**Definition**: Search mode. **Range**: • **max**: A larger metric value is preferred. • **min**: A smaller metric value is preferred.
regex	String	**Definition**: Regular expression of a metric. **Range**: N/A

Table 5-187 search_params

Parameter	Type	Description
name	String	**Definition**: Hyperparameter name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
param_type	String	**Definition**: Parameter type. **Range**: • **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	**Definition**: Lower bound of the hyperparameter. **Range**: N/A
upper_bound	String	**Definition**: Upper bound of the hyperparameter. **Range**: N/A
discrete_points_num	String	**Definition**: Number of discrete points of a hyperparameter with continuous values. **Range**: N/A
discrete_values	Array of strings	**Definition**: Discrete hyperparameter values.

Table 5-188 algo_configs

Parameter	Type	Description
name	String	**Definition**: Search algorithm name. **Range**: N/A
params	Array of **AutoSearchAlgoConfigParameterResp** objects	**Definition**: Search algorithm parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-189 AutoSearchAlgoConfigParameterResp

Parameter	Type	Description
key	String	**Definition**: Parameter key. **Range**: N/A
value	String	**Definition**: Parameter value. **Range**: N/A

Table 5-190 InputResp

Parameter	Type	Description
name	String	**Definition**: Name of the data input channel. **Range**: N/A
description	String	**Definition**: Description of the data input channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data input channels are mapped. Example: **/home/ma-user/modelarts/inputs/data_url_0** **Range**: N/A
access_method	String	**Definition**: Access method of the input data channel path (**local_dir**). **Range**: • **parameter**: hyperparameters • **env**: environment variables
remote	**InputDataInfoResp** object	**Definition**: Description of the actual data input.
remote_constraint	Array of **remote_constraint** objects	**Definition**: Data input constraint.

Table 5-191 InputDataInfoResp

Parameter	Type	Description
dataset	**dataset** object	**Definition**: The input is a dataset.
obs	**obs** object	**Definition**: OBS in which data input and output are stored.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-192 dataset

Parameter	Type	Description
id	String	**Definition**: Dataset ID of a training job. **Range**: N/A
version_id	String	**Definition**: Dataset version ID of a training job. **Range**: N/A
obs_url	String	**Definition**: 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/**. **Range**: N/A

Table 5-193 obs

Parameter	Type	Description
obs_url	String	**Definition**: OBS URL of the dataset for a training job, For example, **/usr/data/**. **Range**: N/A

Table 5-194 remote_constraint

Parameter	Type	Description
data_type	String	**Definition**: Data input type, including the data storage location and dataset. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
attributes	String	**Definition**: Related attributes. **Constraints**: N/A **Range**: If the input is a dataset: • **data_format**: data format • **data_segmentation**: data segmentation method • **dataset_type**: data labeling type **Default Value**: N/A

Table 5-195 OutputResp

Parameter	Type	Description
name	String	**Definition**: Name of the data output channel. **Range**: N/A
description	String	**Definition**: Description of the data output channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data output channels are mapped. **Range**: N/A
access_method	String	**Definition**: Access method of the input data channel path (**local_dir**). **Range**: • **parameter**: hyperparameters • **env**: environment variables
remote	**RemoteResp** object	**Definition**: Description of the actual data output.

Table 5-196 JobEngineResp

Parameter	Type	Description
engine_id	String	**Definition**: Engine ID selected for a training job. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
engine_name	String	**Definition**: Engine name selected for a training job. **Range**: N/A
engine_version	String	**Definition**: Engine version selected for a training job. **Range**: N/A
image_url	String	**Definition**: Custom image URL selected for a training job. The URL is obtained from SWR. **Range**: N/A
install_sys_packages	Boolean	**Definition**: Specifies whether to install the MoXing version specified by the training platform. **Range**: • **true**: yes • **false**: no

Table 5-197 SummaryResp

Parameter	Type	Description
log_dir	**LogDirResp** object	**Definition**: Visualization log output of a training job.
data_sources	Array of **DataSourceResp** objects	**Definition**: Visualization log input of the visualization job or training job debugging mode.

Table 5-198 LogDirResp

Parameter	Type	Description
pfs	**PFSSummaryResp** object	**Definition**: Output of an OBS parallel file system.

Table 5-199 PFSSummaryResp

Parameter	Type	Description
pfs_path	String	**Definition**: URL of the OBS parallel file system. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-200 DataSourceResp

Parameter	Type	Description
job	**JobSummaryResp** object	**Definition**: Job data source.

Table 5-201 JobSummaryResp

Parameter	Type	Description
job_id	String	**Definition**: ID of a training job. **Range**: N/A

Table 5-202 TaskResponse

Parameter	Type	Description
role	String	**Definition**: Task role. This function is not supported currently. **Range**: N/A
algorithm	**TaskResponseAlgorithm** object	**Definition**: Algorithm configurations for algorithm management.
task_resource	**FlavorResponse** object	**Definition**: Specifications of a training job or algorithm.
log_export_path	**log_export_path** object	**Definition**: Saved information about training job logs.

Table 5-203 TaskResponseAlgorithm

Parameter	Type	Description
code_dir	String	**Definition**: Absolute path of the directory where the algorithm boot file is stored. **Range**: N/A
boot_file	String	**Definition**: Absolute path of an algorithm boot file. **Range**: N/A
inputs	**AlgorithmInput** object	**Definition**: Information about the algorithm input channel.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
outputs	**AlgorithmOutput** object	**Definition**: Information about the algorithm output channel.
engine	**AlgorithmEngine** object	**Definition**: Engine that a heterogeneous job depends on.
local_code_dir	String	**Definition**: Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: • 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. **Range**: N/A
working_dir	String	**Definition**: Work directory where an algorithm is executed. Note that this parameter does not take effect in v1 compatibility mode. **Range**: N/A
environments	Map<String,String>	**Definition**: Environment variables related to a training job. **Range**: N/A

Table 5-204 AlgorithmInput

Parameter	Type	Description
name	String	**Definition**: Name of the data input channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data input and output channels are mapped. **Range**: N/A
remote	**AlgorithmRemote** object	**Definition**: Actual data input, which can only be OBS for heterogeneous jobs.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-205 AlgorithmRemote

Parameter	Type	Description
obs	**RemoteObsResp** object	**Definition**: OBS in which data input and output are stored.

Table 5-206 AlgorithmOutput

Parameter	Type	Description
name	String	**Definition**: Name of the data output channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data output channels are mapped. **Range**: N/A
remote	**RemoteResp** object	**Definition**: Description of the actual data output.
mode	String	**Definition**: Data transmission mode. The default value is **upload_periodically**. **Range**: N/A
period	String	**Definition**: Data transmission period. The default value is **30s**. **Range**: N/A

Table 5-207 RemoteResp

Parameter	Type	Description
obs	**RemoteObsResp** object	**Definition**: Data actually output to OBS.

Table 5-208 RemoteObsResp

Parameter	Type	Description
obs_url	String	**Definition**: Path of the data output to OBS. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-209 AlgorithmEngine

Parameter	Type	Description
engine_id	String	**Definition**: Engine flavor ID, for example, **caffe-1.0.0-python2.7**. **Range**: N/A
engine_name	String	**Definition**: Engine flavor name, for example, **Caffe**. **Range**: N/A
engine_version	String	**Definition**: Engine flavor version. Engines with the same name have multiple versions, for example, **Caffe-1.0.0-python2.7** of Python 2.7. **Range**: N/A
v1_compatible	Boolean	**Definition**: Specifies whether the v1 compatibility mode is used. **Range**: • **true**: The v1 compatibility mode is used. • **false**: The v1 compatibility mode is not used.
run_user	String	**Definition**: Default UID for the engine startup. **Range**: N/A
image_url	String	**Definition**: Custom image URL selected for an algorithm. **Range**: N/A

Table 5-210 FlavorResponse

Parameter	Type	Description
pool_id	String	**Definition**: ID of the resource pool selected for a training job. **Range**: N/A
flavor_id	String	**Definition**: Resource flavor ID. **Range**: N/A
flavor_name	String	**Definition**: Resource flavor name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
max_num	Integer	**Definition**: Maximum number of nodes supported by a flavor. **Range**: N/A
billing	**BillingInfo** object	**Definition**: Billing information of a resource flavor.
flavor_info	**FlavorInfoResponse** object	**Definition**: Resource flavor details.
attributes	Map<String,String>	**Definition**: Other flavor attributes. **Range**: N/A

Table 5-211 FlavorInfoResponse

Parameter	Type	Description
max_num	Integer	**Definition**: Maximum number of nodes that can be selected. The value **1** indicates that the distributed mode is not supported. **Range**: N/A
cpu	**Cpu** object	**Definition**: CPU specifications.
gpu	**Gpu** object	**Definition**: GPU specifications.
npu	**Npu** object	**Definition**: Ascend specifications.
memory	**Memory** object	**Definition**: Memory information.
disk	**DiskResponse** object	**Definition**: Disk information.

Table 5-212 DiskResponse

Parameter	Type	Description
size	Integer	**Definition**: Disk size. **Range**: N/A
unit	String	**Definition**: Unit of the disk size. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-213 log_export_path

Parameter	Type	Description
obs_url	String	**Definition**: OBS path for storing training job logs.

Table 5-214 SpecResponse

Parameter	Type	Description
resource	**Resource** object	**Definition**: Resource flavor of a training job. Select either **flavor_id** or **pool_id** and **flavor_id**.
volumes	Array of **JobVolumeResp** objects	**Definition**: Mounting volume information of a training job.
log_export_path	**LogExportPathResp** object	**Definition**: Log output of a training job.
schedule_policy	**SchedulePolicyResp** object	**Definition**: Scheduling policy of a training job.
custom_metrics	Array of **CustomMetrics** objects	**Definition**: Metric collection configuration.

Table 5-215 Resource

Parameter	Type	Description
policy	String	**Definition**: Resource flavor mode of a training job. **Range**: • **regular**: standard mode

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
flavor_id	String	**Definition**: ID of the resource flavor of a training job. **Range**: The **flavor_id** parameter cannot be specified for a dedicated resource pool of CPU specifications. The options for dedicated resource pools with GPU/Ascend specifications are as follows: • **modelarts.pool.visual.xlarge** (1 PU) • **modelarts.pool.visual.2xlarge** (2 PUs) • **modelarts.pool.visual.4xlarge** (4 PUs) • **modelarts.pool.visual.8xlarge** (8 PUs)
flavor_name	String	**Definition**: Read-only flavor name returned by ModelArts when **flavor_id** is used. **Range**: N/A
node_count	Integer	**Definition**: Number of resource replicas selected for a training job. **Range**: N/A
pool_id	String	**Definition**: ID of the resource pool selected for a training job. **Range**: N/A
pool_group_id	String	**Definition**: ID of the resource pool federation selected for a training job. **Range**: N/A
flavor_detail	**FlavorDetail** object	**Definition**: Flavor details of a training job or algorithm. This parameter is available only for public resource pools.
main_container_allocated_resources	**MainContainerAllocatedResources** object	**Definition**: Resource specifications actually obtained by the training container of a training job.
main_container_customized_flavor	**MainContainerCustomizedFlavor** object	**Definition**: Custom flavor of a training job. **Range**: The number of CPU cores and memory size must be greater than 0, and the number of accelerator PUs must be greater than or equal to 0.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-216 FlavorDetail

Parameter	Type	Description
billing	**BillingInfo** object	**Definition**: Billing information of a resource flavor.
flavor_info	**FlavorInfo** object	**Definition**: Resource flavor details.

Table 5-217 BillingInfo

Parameter	Type	Description
code	String	**Definition**: Billing code. **Range**: N/A
unit_num	Integer	**Definition**: Billing unit. **Range**: N/A

Table 5-218 FlavorInfo

Parameter	Type	Description
max_num	Integer	**Definition**: Maximum number of nodes that can be selected. The value **1** indicates that the distributed mode is not supported. **Range**: N/A
cpu	**Cpu** object	**Definition**: CPU specifications.
gpu	**Gpu** object	**Definition**: GPU specifications.
npu	**Npu** object	**Definition**: Ascend specifications.
memory	**Memory** object	**Definition**: Memory information.
disk	**Disk** object	**Definition**: Disk information.

Table 5-219 Cpu

Parameter	Type	Description
arch	String	**Definition**: CPU architecture. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
core_num	Integer	**Definition**: Number of cores. **Range**: N/A

Table 5-220 Gpu

Parameter	Type	Description
unit_num	Integer	**Definition**: Number of GPUs. **Range**: N/A
product_name	String	**Definition**: Product name. **Range**: N/A
memory	String	**Definition**: Memory. **Range**: N/A

Table 5-221 Npu

Parameter	Type	Description
unit_num	String	**Definition**: Number of NPUs. **Range**: N/A
product_name	String	**Definition**: Product name. **Range**: N/A
memory	String	**Definition**: Memory. **Range**: N/A

Table 5-222 Memory

Parameter	Type	Description
size	Integer	**Definition**: Memory size. **Range**: N/A
unit	String	**Definition**: Number of memory units. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-223 Disk

Parameter	Type	Description
size	String	**Definition**: Disk size. **Range**: N/A
unit	String	**Definition**: Unit of the disk size. Generally, the unit is GB. **Range**: N/A

Table 5-224 MainContainerAllocatedResources

Parameter	Type	Description
cpu_arch	String	**Definition**: CPU architecture. **Range**: N/A
cpu_core_num	Float	**Definition**: Number of cores. **Range**: N/A
mem_size	Float	**Definition**: Memory information. **Range**: N/A
accelerator_num	Float	**Definition**: Number of accelerator cards. **Range**: N/A
accelerator_type	String	**Definition**: Type of accelerator cards. For example, ascend-d910b and ascend-snt9c. **Range**: N/A

Table 5-225 MainContainerCustomizedFlavor

Parameter	Type	Description
cpu_core_num	Float	**Definition**: Number of CPU cores. **Range**: greater than 0
mem_size	Float	**Definition**: Memory size. **Range**: greater than 0
accelerator_num	Float	**Definition**: Number of accelerator cards. **Range**: greater than or equal to 0

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-226 JobVolumeResp

Parameter	Type	Description
nfs	**NfsResp** object	**Definition**: Volumes attached in NFS mode.

Table 5-227 NfsResp

Parameter	Type	Description
nfs_server_path	String	**Definition**: NFS server path, for example, **10.10.10.10:/example/path**. **Range**: N/A
local_path	String	**Definition**: Path for attaching volumes to the training container, for example, **/example/path**. **Range**: N/A
read_only	Boolean	**Definition**: Specifies whether the disks attached to the container in NFS mode are read-only. **Range**: • **true**: read only • **false**: non-read-only

Table 5-228 LogExportPathResp

Parameter	Type	Description
obs_url	String	**Definition**: OBS path for storing training job logs, for example, **obs://example/path**. **Range**: N/A
host_path	String	**Definition**: Path of the host where training job logs are stored, for example, **/example/path**. **Range**: N/A

Table 5-229 SchedulePolicyResp

Parameter	Type	Description
required_affinity	**RequiredAffinityResp** object	**Definition**: Affinity requirements of a training job.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
priority	Integer	**Definition**: Priority of a training job. **Range**: **0** to **3**
preemptible	Boolean	**Definition**: Whether the resource can be preempted. **Range**: • **true**: The resource can be preempted. • **false**: The resource cannot be preempted.

Table 5-230 RequiredAffinityResp

Parameter	Type	Description
affinity_type	String	**Definition**: Affinity scheduling policy. **Range**: • **cabinet**: strong cabinet scheduling • **hyperinstance**: supernode affinity scheduling
affinity_group_size	Integer	**Definition**: Size of an affinity group. **Range**: N/A

Table 5-231 CustomMetrics

Parameter	Type	Description
exec	**Exec** object	**Definition**: Metrics are collected in CLI mode.
http_get	**HttpGet** object	**Definition**: Metrics are collected in HTTP mode.

Table 5-232 Exec

Parameter	Type	Description
command	Array of strings	**Definition**: Metrics are collected in CLI mode.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-233 HttpGet

Parameter	Type	Description
path	String	**Definition**: URL for obtaining metrics over HTTP. Both the URL and the port below must either be configured together or remain empty. **Range**: N/A
port	Integer	**Definition**: Port for obtaining metrics over HTTP. This parameter and the URL above must be set or left blank at the same time. **Range**: N/A

Table 5-234 JobEndpointsResp

Parameter	Type	Description
ssh	**SSHResp** object	**Definition**: SSH connection information.
jupyter_lab	**JupyterLab** object	**Definition**: JupyterLab connection information.
tensorboard	**Tensorboard** object	**Definition**: TensorBoard connection information.
mindstudio_insight	**MindStudioInsight** object	**Definition**: MindStudio Insight connection information.

Table 5-235 SSHResp

Parameter	Type	Description
key_pair_names	Array of strings	**Definition**: Name of the SSH key pair, which can be created and viewed on the **Key Pair** page of the Elastic Cloud Server (ECS) console. **Range**: N/A
task_urls	Array of **TaskUrls** objects	**Definition**: SSH connection address.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-236 TaskUrls

Parameter	Type	Description
task	String	**Definition**: Task ID of a training job. **Range**: N/A
url	String	**Definition**: SSH connection address of a training job. **Range**: N/A

Table 5-237 JupyterLab

Parameter	Type	Description
url	String	**Definition**: JupyterLab address of a training job. **Range**: N/A
token	String	**Definition**: JupyterLab token of a training job. **Range**: N/A

Table 5-238 Tensorboard

Parameter	Type	Description
url	String	**Definition**: TensorBoard address of a training job. **Range**: N/A
token	String	**Definition**: TensorBoard token of a training job. **Range**: N/A

Table 5-239 MindStudioInsight

Parameter	Type	Description
url	String	**Definition**: MindStudio Insight address of a training job. **Range**: N/A
token	String	**Definition**: MindStudio Insight token of a training job. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status code: 400

Table 5-240 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" : {
    "id" : "425b7087-83de-49ed-9e40-5bb642be956f",
    "name" : "TestModelArtsJob",
    "description" : "This is a ModelArts job",
    "create_time" : 1637045545982,
    "workspace_id" : "0",
    "user_name" : ""
  },
  "algorithm" : {
    "id" : "3f5d6706-7b67-408d-8ba0-ec08048c45ed",
    "name" : "ttt-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" : [ ]
      }
    }, {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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" : {
    "flavor_id" : "modelarts.p3.large.public.free",
    "node_count" : 1
  },
  "log_export_path" : { },
  "custom_metrics" : [ {
    "http_get" : {
      "path" : "/raw_text",
      "port" : 10001
    }
  } ]
 }
}
```

- 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" : "xxxxxxxx/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/"
  },
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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" : "ttt-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,
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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"
        }
      }
    },
    "main_container_allocated_resources" : {
      "cpu_arch" : "x86",
      "cpu_core_num" : 5,
      "mem_size" : 44,
      "accelerator_num" : 1,
      "accelerator_type" : "nvidia-v100-pcie32"
    }
  },
  "log_export_path" : { },
  "custom_metrics" : [ {
    "exec" : {
      "command" : [ "cat", "/a/b/c.prom" ]
    }
  }, {
    "http_get" : {
      "path" : "/raw_text",
      "port" : 10001
    }
  } ]
 }
}
```


Status code: 400

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 on ModelArts.

This API applies to the following scenario: When you need to view the running status and configuration information of a specific training job, you can use this API to obtain the job details. Before using this API, ensure that you have obtained the training job ID and have the permission to view job details. After the query is complete, the platform returns the details about the training job, including the job status, configuration, and logs. If the training job ID does not exist or you do not have the operation permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:trainJob:get	Read	trainJob *	g:ResourceTag/<tag-key>	-	-
		-	• modelarts:poolType • modelarts:poolId		

URI

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

Table 5-241 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
training_job_id	Yes	String	**Definition**: Training job ID. For details, see **Obtaining Training Jobs**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-242 Response body parameters

Parameter	Type	Description
kind	String	**Definition**: Type of a training job. **Range** • **job**: common job • **federated_pool_job**: resource pool federated job • **edge_job**: edge job • **hetero_job**: heterogeneous job • **mrs_job**: MRS job • **autosearch_job**: auto search job • **diag_job**: diagnosis job • **visualization_job**: visualization job
metadata	**JobMetadataResponse** object	**Definition**: Training job metadata.
status	**Status** object	**Definition**: Training job status information.
algorithm	**JobAlgorithmResponse** object	**Definition**: Training job algorithm.
tasks	Array of **TaskResponse** objects	**Definition**: Heterogeneous training tasks.
spec	**SpecResponse** object	**Definition**: Training job specifications.
endpoints	**JobEndpointsResp** object	**Definition**: Configurations required for remotely accessing a training job.

Table 5-243 JobMetadataResponse

Parameter	Type	Description
id	String	**Definition**: Training job ID, which is generated and returned by ModelArts after a training job is created. **Range**: N/A
name	String	**Definition**: Name of a training job. **Range**: The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
workspace_id	String	**Definition**: Workspace where a specified job is located. **Range**: N/A
description	String	**Definition**: Definition of a training job. **Range**: N/A
create_time	Long	**Definition**: Time when a training job was created, in milliseconds. The value is generated and returned by ModelArts after a training job is created. **Range**: N/A
user_name	String	**Definition**: Username for creating a training job. The username is generated and returned by ModelArts after a training job is created. **Range**: N/A
annotations	Map<String,String>	**Definition**: Advanced functions of a training job.

Table 5-244 Status

Parameter	Type	Description
phase	String	**Definition**: Level-1 status of a training job. **Range**: • **Creating**: The job is being created. • **Pending**: The job is pending. • **Running**: The job is running. • **Failed**: The job failed to run. • **Completed**: The job is complete. • **Terminating**: The job is being stopped. • **Terminated**: The job has been stopped. • **Abnormal**: The job is abnormal.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
secondary_phase	String	**Definition**: 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. **Range**: • **Creating**: The job is being created. • **Queuing**: The job is queuing. • **Running**: The job is running. • **Failed**: The job failed to run. • **Completed**: The job is complete. • **Terminating**: The job is being stopped. • **Terminated**: The job has been stopped. • **CreateFailed**: The job fails to be created. • **TerminatedFailed**: The job fails to be stopped. • **Unknown**: The job is in an unknown state. • **Lost**: The job is abnormal.
duration	Long	**Definition**: Running duration of a training job, in ms. **Range**: N/A
node_count_metrics	Array<Array<Integer>>	**Definition**: Node quantity change metric during a training job runtime.
tasks	Array of strings	**Definition**: Training job subtask name.
start_time	Long	**Definition**: Timestamp when a training job is started. **Range**: N/A
task_statuses	Array of **TaskStatuses** objects	**Definition**: Status of the first failed subtask of a training job.
running_records	Array of **RunningRecord** objects	**Definition**: Running and fault recovery records of a training job.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-245 TaskStatuses

Parameter	Type	Description
task	String	**Definition**: Training job subtask name. **Range**: N/A
exit_code	Integer	**Definition**: Exit code of a training job subtask. **Range**: N/A
message	String	**Definition**: Error message of a training job subtask. **Range**: N/A

Table 5-246 RunningRecord

Parameter	Type	Description
start_at	Integer	**Definition**: Unix timestamp of the start time in the current running record, in seconds. **Range**: N/A
end_at	Integer	**Definition**: Unix timestamp of the end time in the current running record, in seconds. **Range**: N/A
xpu_start_at	Integer	**Definition**: Unix timestamp of the accelerator card startup time in the current running record, in seconds. **Range**: N/A
start_type	String	**Definition**: Startup mode of the current execution. **Range** • **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	**Definition**: Reason why the running ends. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
end_related_task	String	**Definition**: ID of the task worker (for example, **worker-0**) that ends the running. **Range**: N/A
end_recover	String	**Definition**: Fault tolerance policy adopted when the execution ends abnormally. **Range** • **npu_proc_restart**: NPU in-place hot recovery • **proc_restart**: in-place process recovery • **npu_step_retry**: step recomputation • **pod_reschedule**: pod-level rescheduling • **job_reschedule**: job-level rescheduling • **job_reschedule_with_taint**: isolated job-level rescheduling
end_recover_before_downgrade	String	**Definition**: There is a downgrade relationship between policies. If a policy fails to be executed, it will be downgraded to another specified policy. **end_recover_before_downgrade** indicates the tolerance policy used before **end_recover** is downgraded. **Range**: same as that of **end_recover**.
recover_records	Array of **RecoverRecord** objects	**Definition**: details about all fault tolerance policies adopted when the execution ends abnormally.

Table 5-247 RecoverRecord

Parameter	Type	Description
recover_start_at	Integer	Unix timestamp of the start time of the fault tolerance policy, in seconds. The timestamp is also the fault occurrence time.
recover_end_at	Integer	Unix timestamp of the end time of the fault tolerance policy, in seconds.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
recover	String	Fault tolerance policy. Options: • **npu_step_retry**: step recomputation • **npu_proc_restart**: NPU in-place hot recovery • **proc_restart**: in-place process recovery • **pod_reschedule**: pod-level rescheduling • **job_reschedule**: job-level rescheduling • **job_reschedule_with_taint**: isolated job-level rescheduling
fault_scenario	String	Fault scenario. Options: • **chip_fault**: chip fault • **node_fault**: node fault • **job_failed**: job exit upon a failure • **job_hanged**: job suspension • **job_subhealth**: job subhealth • **error_in_log**: log exception
reason	String	Cause of the fault.
related_task	String	ID of the task worker that causes the end of the current running record, for example, **worker-0**.
recover_result	String	Execution result of the fault. Options: • **recovering**: executing • **success**: successful • **failed**: failed • **downgrade**: policy downgrade

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-248 JobAlgorithmResponse

Parameter	Type	Description
id	String	**Definition**: Training job algorithm. **Range**: • **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	**Definition**: Algorithm name. **Range**: N/A
subscription_id	String	**Definition**: Subscription ID of a subscription algorithm, which must be used with **item_version_id**. **Range**: N/A
item_version_id	String	**Definition**: Version of a subscription algorithm, which must be used with **subscription_id**. **Range**: N/A
code_dir	String	**Definition**: Code directory of a training job, for example, **/usr/app/**. This parameter must be used with **boot_file**. Leave this parameter blank if **id**, or **subscription_id** and **item_version_id** are specified. **Range**: N/A
boot_file	String	**Definition**: 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. **Range**: N/A
autosearch_config_path	String	**Definition**: YAML configuration path of an auto search job. An OBS URL is required. For example, **obs://bucket/file.yaml**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
autosearch_framework_path	String	**Definition**: Framework code directory of an auto search job. An OBS URL is required. For example, **obs://bucket/files/**. **Range**: N/A
command	String	**Definition**: Boot command for starting the container of a custom image for a training job. For example, **python train.py**. **Range**: N/A
parameters	Array of **ParameterResp** objects	**Definition**: Running parameters of the training job.
policies	**policies** object	**Definition**: Policy supported by a job.
inputs	Array of **InputResp** objects	**Definition**: Data input of a training job.
outputs	Array of **OutputResp** objects	**Definition**: Output of the training job.
engine	**JobEngineResp** object	**Definition**: 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	**Definition**: Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: • 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. **Range**: N/A
working_dir	String	**Definition**: Work directory where an algorithm is executed. Rules: In v1 compatibility mode, this parameter does not take effect. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
environments	Array of Map<String,String> objects	**Definition**: Environment variables of a training job. The format is **key:value**. Leave this parameter blank.
summary	**SummaryResp** object	**Definition**: Visualization log summary.

Table 5-249 ParameterResp

Parameter	Type	Description
name	String	**Definition**: Parameter name. **Range**: N/A
value	String	**Definition**: Parameter value. **Range**: N/A
description	String	**Definition**: Parameter description. **Range**: N/A
constraint	**constraint** object	**Definition**: Parameter attribute.
i18n_description	**i18n_description** object	**Definition**: Internationalization description.

Table 5-250 constraint

Parameter	Type	Description
editable	Boolean	**Definition**: Whether the parameter can be edited. **Range**: • **true**: editable • **false**: Not uneditable
required	Boolean	**Definition**: Whether the parameter is mandatory. **Range**: • **true**: mandatory • **false**: optional

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sensitive	Boolean	**Definition**: Whether the parameter is sensitive. This function is unavailable currently. **Range**: • **true**: sensitive • **false**: insensitive
valid_range	Array of strings	**Definition**: Valid range.

Table 5-251 i18n_description

Parameter	Type	Description
language	String	**Definition**: Internationalization language. The options are as follows: • **zh-cn**: Chinese • **en-us**: English](tag:hc,hk) **Range**: N/A
description	String	**Definition**: Internationalization language description. **Range**: N/A

Table 5-252 policies

Parameter	Type	Description
auto_search	**auto_search** object	**Definition**: Hyperparameter search configuration.

Table 5-253 auto_search

Parameter	Type	Description
skip_search_params	String	**Definition**: Hyperparameter parameters that need to be skipped. **Range**: N/A
reward_attrs	Array of **reward_attrs** objects	**Definition**: Search metrics.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
search_params	Array of **search_params** objects	**Definition**: Search parameters.
algo_configs	Array of **algo_configs** objects	**Definition**: Search algorithm configurations.

Table 5-254 reward_attrs

Parameter	Type	Description
name	String	**Definition**: Metric name. **Range**: N/A
mode	String	**Definition**: Search mode. **Range**: • **max**: A larger metric value is preferred. • **min**: A smaller metric value is preferred.
regex	String	**Definition**: Regular expression of a metric. **Range**: N/A

Table 5-255 search_params

Parameter	Type	Description
name	String	**Definition**: Hyperparameter name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
param_type	String	**Definition**: Parameter type. **Range**: • **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	**Definition**: Lower bound of the hyperparameter. **Range**: N/A
upper_bound	String	**Definition**: Upper bound of the hyperparameter. **Range**: N/A
discrete_points_num	String	**Definition**: Number of discrete points of a hyperparameter with continuous values. **Range**: N/A
discrete_values	Array of strings	**Definition**: Discrete hyperparameter values.

Table 5-256 algo_configs

Parameter	Type	Description
name	String	**Definition**: Search algorithm name. **Range**: N/A
params	Array of **AutoSearchAlgoConfigParameterResp** objects	**Definition**: Search algorithm parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-257 AutoSearchAlgoConfigParameterResp

Parameter	Type	Description
key	String	**Definition**: Parameter key. **Range**: N/A
value	String	**Definition**: Parameter value. **Range**: N/A

Table 5-258 InputResp

Parameter	Type	Description
name	String	**Definition**: Name of the data input channel. **Range**: N/A
description	String	**Definition**: Description of the data input channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data input channels are mapped. Example: **/home/ma-user/modelarts/inputs/data_url_0** **Range**: N/A
access_method	String	**Definition**: Access method of the input data channel path (**local_dir**). **Range**: • **parameter**: hyperparameters • **env**: environment variables
remote	**InputDataInfoResp** object	**Definition**: Description of the actual data input.
remote_constraint	Array of **remote_constraint** objects	**Definition**: Data input constraint.

Table 5-259 InputDataInfoResp

Parameter	Type	Description
dataset	**dataset** object	**Definition**: The input is a dataset.
obs	**obs** object	**Definition**: OBS in which data input and output are stored.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-260 dataset

Parameter	Type	Description
id	String	**Definition**: Dataset ID of a training job. **Range**: N/A
version_id	String	**Definition**: Dataset version ID of a training job. **Range**: N/A
obs_url	String	**Definition**: 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/**. **Range**: N/A

Table 5-261 obs

Parameter	Type	Description
obs_url	String	**Definition**: OBS URL of the dataset for a training job, For example, **/usr/data/**. **Range**: N/A

Table 5-262 remote_constraint

Parameter	Type	Description
data_type	String	**Definition**: Data input type, including the data storage location and dataset. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
attributes	String	**Definition**: Related attributes. **Constraints**: N/A **Range**: If the input is a dataset: • **data_format**: data format • **data_segmentation**: data segmentation method • **dataset_type**: data labeling type **Default Value**: N/A

Table 5-263 OutputResp

Parameter	Type	Description
name	String	**Definition**: Name of the data output channel. **Range**: N/A
description	String	**Definition**: Description of the data output channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data output channels are mapped. **Range**: N/A
access_method	String	**Definition**: Access method of the input data channel path (**local_dir**). **Range**: • **parameter**: hyperparameters • **env**: environment variables
remote	**RemoteResp** object	**Definition**: Description of the actual data output.

Table 5-264 JobEngineResp

Parameter	Type	Description
engine_id	String	**Definition**: Engine ID selected for a training job. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
engine_name	String	**Definition**: Engine name selected for a training job. **Range**: N/A
engine_version	String	**Definition**: Engine version selected for a training job. **Range**: N/A
image_url	String	**Definition**: Custom image URL selected for a training job. The URL is obtained from SWR. **Range**: N/A
install_sys_packages	Boolean	**Definition**: Specifies whether to install the MoXing version specified by the training platform. **Range**: • **true**: yes • **false**: no

Table 5-265 SummaryResp

Parameter	Type	Description
log_dir	**LogDirResp** object	**Definition**: Visualization log output of a training job.
data_sources	Array of **DataSourceResp** objects	**Definition**: Visualization log input of the visualization job or training job debugging mode.

Table 5-266 LogDirResp

Parameter	Type	Description
pfs	**PFSSummaryResp** object	**Definition**: Output of an OBS parallel file system.

Table 5-267 PFSSummaryResp

Parameter	Type	Description
pfs_path	String	**Definition**: URL of the OBS parallel file system. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-268 DataSourceResp

Parameter	Type	Description
job	**JobSummaryResp** object	**Definition**: Job data source.

Table 5-269 JobSummaryResp

Parameter	Type	Description
job_id	String	**Definition**: ID of a training job. **Range**: N/A

Table 5-270 TaskResponse

Parameter	Type	Description
role	String	**Definition**: Task role. This function is not supported currently. **Range**: N/A
algorithm	**TaskResponseAlgorithm** object	**Definition**: Algorithm configurations for algorithm management.
task_resource	**FlavorResponse** object	**Definition**: Specifications of a training job or algorithm.
log_export_path	**log_export_path** object	**Definition**: Saved information about training job logs.

Table 5-271 TaskResponseAlgorithm

Parameter	Type	Description
code_dir	String	**Definition**: Absolute path of the directory where the algorithm boot file is stored. **Range**: N/A
boot_file	String	**Definition**: Absolute path of an algorithm boot file. **Range**: N/A
inputs	**AlgorithmInput** object	**Definition**: Information about the algorithm input channel.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
outputs	**AlgorithmOutput** object	**Definition**: Information about the algorithm output channel.
engine	**AlgorithmEngine** object	**Definition**: Engine that a heterogeneous job depends on.
local_code_dir	String	**Definition**: Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: • 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. **Range**: N/A
working_dir	String	**Definition**: Work directory where an algorithm is executed. Note that this parameter does not take effect in v1 compatibility mode. **Range**: N/A
environments	Map<String,String>	**Definition**: Environment variables related to a training job. **Range**: N/A

Table 5-272 AlgorithmInput

Parameter	Type	Description
name	String	**Definition**: Name of the data input channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data input and output channels are mapped. **Range**: N/A
remote	**AlgorithmRemote** object	**Definition**: Actual data input, which can only be OBS for heterogeneous jobs.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-273 AlgorithmRemote

Parameter	Type	Description
obs	**RemoteObsResp** object	**Definition**: OBS in which data input and output are stored.

Table 5-274 AlgorithmOutput

Parameter	Type	Description
name	String	**Definition**: Name of the data output channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data output channels are mapped. **Range**: N/A
remote	**RemoteResp** object	**Definition**: Description of the actual data output.
mode	String	**Definition**: Data transmission mode. The default value is **upload_periodically**. **Range**: N/A
period	String	**Definition**: Data transmission period. The default value is **30s**. **Range**: N/A

Table 5-275 RemoteResp

Parameter	Type	Description
obs	**RemoteObsResp** object	**Definition**: Data actually output to OBS.

Table 5-276 RemoteObsResp

Parameter	Type	Description
obs_url	String	**Definition**: Path of the data output to OBS. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-277 AlgorithmEngine

Parameter	Type	Description
engine_id	String	**Definition**: Engine flavor ID, for example, **caffe-1.0.0-python2.7**. **Range**: N/A
engine_name	String	**Definition**: Engine flavor name, for example, **Caffe**. **Range**: N/A
engine_version	String	**Definition**: Engine flavor version. Engines with the same name have multiple versions, for example, **Caffe-1.0.0-python2.7** of Python 2.7. **Range**: N/A
v1_compatible	Boolean	**Definition**: Specifies whether the v1 compatibility mode is used. **Range**: • **true**: The v1 compatibility mode is used. • **false**: The v1 compatibility mode is not used.
run_user	String	**Definition**: Default UID for the engine startup. **Range**: N/A
image_url	String	**Definition**: Custom image URL selected for an algorithm. **Range**: N/A

Table 5-278 FlavorResponse

Parameter	Type	Description
pool_id	String	**Definition**: ID of the resource pool selected for a training job. **Range**: N/A
flavor_id	String	**Definition**: Resource flavor ID. **Range**: N/A
flavor_name	String	**Definition**: Resource flavor name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
max_num	Integer	**Definition**: Maximum number of nodes supported by a flavor. **Range**: N/A
billing	**BillingInfo** object	**Definition**: Billing information of a resource flavor.
flavor_info	**FlavorInfoResponse** object	**Definition**: Resource flavor details.
attributes	Map<String,String>	**Definition**: Other flavor attributes. **Range**: N/A

Table 5-279 FlavorInfoResponse

Parameter	Type	Description
max_num	Integer	**Definition**: Maximum number of nodes that can be selected. The value **1** indicates that the distributed mode is not supported. **Range**: N/A
cpu	**Cpu** object	**Definition**: CPU specifications.
gpu	**Gpu** object	**Definition**: GPU specifications.
npu	**Npu** object	**Definition**: Ascend specifications.
memory	**Memory** object	**Definition**: Memory information.
disk	**DiskResponse** object	**Definition**: Disk information.

Table 5-280 DiskResponse

Parameter	Type	Description
size	Integer	**Definition**: Disk size. **Range**: N/A
unit	String	**Definition**: Unit of the disk size. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-281 log_export_path

Parameter	Type	Description
obs_url	String	**Definition**: OBS path for storing training job logs.

Table 5-282 SpecResponse

Parameter	Type	Description
resource	**Resource** object	**Definition**: Resource flavor of a training job. Select either **flavor_id** or **pool_id** and **flavor_id**.
volumes	Array of **JobVolumeResp** objects	**Definition**: Mounting volume information of a training job.
log_export_path	**LogExportPathResp** object	**Definition**: Log output of a training job.
schedule_policy	**SchedulePolicyResp** object	**Definition**: Scheduling policy of a training job.
custom_metrics	Array of **CustomMetrics** objects	**Definition**: Metric collection configuration.

Table 5-283 Resource

Parameter	Type	Description
policy	String	**Definition**: Resource flavor mode of a training job. **Range**: • **regular**: standard mode

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
flavor_id	String	**Definition**: ID of the resource flavor of a training job. **Range**: The **flavor_id** parameter cannot be specified for a dedicated resource pool of CPU specifications. The options for dedicated resource pools with GPU/Ascend specifications are as follows: • **modelarts.pool.visual.xlarge** (1 PU) • **modelarts.pool.visual.2xlarge** (2 PUs) • **modelarts.pool.visual.4xlarge** (4 PUs) • **modelarts.pool.visual.8xlarge** (8 PUs)
flavor_name	String	**Definition**: Read-only flavor name returned by ModelArts when **flavor_id** is used. **Range**: N/A
node_count	Integer	**Definition**: Number of resource replicas selected for a training job. **Range**: N/A
pool_id	String	**Definition**: ID of the resource pool selected for a training job. **Range**: N/A
pool_group_id	String	**Definition**: ID of the resource pool federation selected for a training job. **Range**: N/A
flavor_detail	**FlavorDetail** object	**Definition**: Flavor details of a training job or algorithm. This parameter is available only for public resource pools.
main_container_allocated_resources	**MainContainerAllocatedResources** object	**Definition**: Resource specifications actually obtained by the training container of a training job.
main_container_customized_flavor	**MainContainerCustomizedFlavor** object	**Definition**: Custom flavor of a training job. **Range**: The number of CPU cores and memory size must be greater than 0, and the number of accelerator PUs must be greater than or equal to 0.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-284 FlavorDetail

Parameter	Type	Description
billing	**BillingInfo** object	**Definition**: Billing information of a resource flavor.
flavor_info	**FlavorInfo** object	**Definition**: Resource flavor details.

Table 5-285 BillingInfo

Parameter	Type	Description
code	String	**Definition**: Billing code. **Range**: N/A
unit_num	Integer	**Definition**: Billing unit. **Range**: N/A

Table 5-286 FlavorInfo

Parameter	Type	Description
max_num	Integer	**Definition**: Maximum number of nodes that can be selected. The value **1** indicates that the distributed mode is not supported. **Range**: N/A
cpu	**Cpu** object	**Definition**: CPU specifications.
gpu	**Gpu** object	**Definition**: GPU specifications.
npu	**Npu** object	**Definition**: Ascend specifications.
memory	**Memory** object	**Definition**: Memory information.
disk	**Disk** object	**Definition**: Disk information.

Table 5-287 Cpu

Parameter	Type	Description
arch	String	**Definition**: CPU architecture. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
core_num	Integer	**Definition**: Number of cores. **Range**: N/A

Table 5-288 Gpu

Parameter	Type	Description
unit_num	Integer	**Definition**: Number of GPUs. **Range**: N/A
product_name	String	**Definition**: Product name. **Range**: N/A
memory	String	**Definition**: Memory. **Range**: N/A

Table 5-289 Npu

Parameter	Type	Description
unit_num	String	**Definition**: Number of NPUs. **Range**: N/A
product_name	String	**Definition**: Product name. **Range**: N/A
memory	String	**Definition**: Memory. **Range**: N/A

Table 5-290 Memory

Parameter	Type	Description
size	Integer	**Definition**: Memory size. **Range**: N/A
unit	String	**Definition**: Number of memory units. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-291 Disk

Parameter	Type	Description
size	String	**Definition**: Disk size. **Range**: N/A
unit	String	**Definition**: Unit of the disk size. Generally, the unit is GB. **Range**: N/A

Table 5-292 MainContainerAllocatedResources

Parameter	Type	Description
cpu_arch	String	**Definition**: CPU architecture. **Range**: N/A
cpu_core_num	Float	**Definition**: Number of cores. **Range**: N/A
mem_size	Float	**Definition**: Memory information. **Range**: N/A
accelerator_num	Float	**Definition**: Number of accelerator cards. **Range**: N/A
accelerator_type	String	**Definition**: Type of accelerator cards. For example, ascend-d910b and ascend-snt9c. **Range**: N/A

Table 5-293 MainContainerCustomizedFlavor

Parameter	Type	Description
cpu_core_num	Float	**Definition**: Number of CPU cores. **Range**: greater than 0
mem_size	Float	**Definition**: Memory size. **Range**: greater than 0
accelerator_num	Float	**Definition**: Number of accelerator cards. **Range**: greater than or equal to 0

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-294 JobVolumeResp

Parameter	Type	Description
nfs	**NfsResp** object	**Definition**: Volumes attached in NFS mode.

Table 5-295 NfsResp

Parameter	Type	Description
nfs_server_path	String	**Definition**: NFS server path, for example, **10.10.10.10:/example/path**. **Range**: N/A
local_path	String	**Definition**: Path for attaching volumes to the training container, for example, **/example/path**. **Range**: N/A
read_only	Boolean	**Definition**: Specifies whether the disks attached to the container in NFS mode are read-only. **Range**: • **true**: read only • **false**: non-read-only

Table 5-296 LogExportPathResp

Parameter	Type	Description
obs_url	String	**Definition**: OBS path for storing training job logs, for example, **obs://example/path**. **Range**: N/A
host_path	String	**Definition**: Path of the host where training job logs are stored, for example, **/example/path**. **Range**: N/A

Table 5-297 SchedulePolicyResp

Parameter	Type	Description
required_affinity	**RequiredAffinityResp** object	**Definition**: Affinity requirements of a training job.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
priority	Integer	**Definition**: Priority of a training job. **Range**: **0** to **3**
preemptible	Boolean	**Definition**: Whether the resource can be preempted. **Range**: • **true**: The resource can be preempted. • **false**: The resource cannot be preempted.

Table 5-298 RequiredAffinityResp

Parameter	Type	Description
affinity_type	String	**Definition**: Affinity scheduling policy. **Range**: • **cabinet**: strong cabinet scheduling • **hyperinstance**: supernode affinity scheduling
affinity_group_size	Integer	**Definition**: Size of an affinity group. **Range**: N/A

Table 5-299 CustomMetrics

Parameter	Type	Description
exec	**Exec** object	**Definition**: Metrics are collected in CLI mode.
http_get	**HttpGet** object	**Definition**: Metrics are collected in HTTP mode.

Table 5-300 Exec

Parameter	Type	Description
command	Array of strings	**Definition**: Metrics are collected in CLI mode.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-301 HttpGet

Parameter	Type	Description
path	String	**Definition**: URL for obtaining metrics over HTTP. Both the URL and the port below must either be configured together or remain empty. **Range**: N/A
port	Integer	**Definition**: Port for obtaining metrics over HTTP. This parameter and the URL above must be set or left blank at the same time. **Range**: N/A

Table 5-302 JobEndpointsResp

Parameter	Type	Description
ssh	**SSHResp** object	**Definition**: SSH connection information.
jupyter_lab	**JupyterLab** object	**Definition**: JupyterLab connection information.
tensorboard	**Tensorboard** object	**Definition**: TensorBoard connection information.
mindstudio_insight	**MindStudioInsight** object	**Definition**: MindStudio Insight connection information.

Table 5-303 SSHResp

Parameter	Type	Description
key_pair_names	Array of strings	**Definition**: Name of the SSH key pair, which can be created and viewed on the **Key Pair** page of the Elastic Cloud Server (ECS) console. **Range**: N/A
task_urls	Array of **TaskUrls** objects	**Definition**: SSH connection address.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-304 TaskUrls

Parameter	Type	Description
task	String	**Definition**: Task ID of a training job. **Range**: N/A
url	String	**Definition**: SSH connection address of a training job. **Range**: N/A

Table 5-305 JupyterLab

Parameter	Type	Description
url	String	**Definition**: JupyterLab address of a training job. **Range**: N/A
token	String	**Definition**: JupyterLab token of a training job. **Range**: N/A

Table 5-306 Tensorboard

Parameter	Type	Description
url	String	**Definition**: TensorBoard address of a training job. **Range**: N/A
token	String	**Definition**: TensorBoard token of a training job. **Range**: N/A

Table 5-307 MindStudioInsight

Parameter	Type	Description
url	String	**Definition**: MindStudio Insight address of a training job. **Range**: N/A
token	String	**Definition**: MindStudio Insight token of a training job. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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"
        }
      }
    },
    "main_container_allocated_resources" : {
      "cpu_arch" : "x86",
      "cpu_core_num" : 5,
      "mem_size" : 44,
      "accelerator_num" : 1,
      "accelerator_type" : "nvidia-v100-pcie32"
    }
  },
  "custom_metrics" : [ {
    "exec" : {
      "command" : [ "cat", "/a/b/c.prom" ]
    }
  }, {
    "http_get" : {
      "path" : "/raw_text",
      "port" : 10001
    }
  } ]
 }
}
```

Status Codes

Status Code	Description
200	ok

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

5.8 Modifying the Description of a Training Job

Function

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

This API is used when you need to update the description of a training job. Before using this API, ensure that the training job exists and you have the required permission. After the update, the description of the training job is updated. If the training job does not exist or you do not have the required permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:trainJob:update	Write	trainJob *	g:ResourceTag/<tag-key>	-	-
		-	• modelarts:poolType • modelarts:poolId		

URI

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-308 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
training_job_id	Yes	String	**Definition**: Training job ID. For details, see **Obtaining Training Jobs**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

Table 5-309 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	**Definition**: Training job description. **Constraints**: The value can contain at most 256 characters. **Range**: N/A **Default Value**: **NULL**

Response Parameters

Status code: 200

No Content

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
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 from ModelArts.

This API applies to the following scenarios: When you need to delete completed or unnecessary training jobs, you can use this API to delete a specified training job. Before using this API, ensure that the training job exists and you have the permission to delete it. After the deletion is complete, the training job is permanently removed from the platform, and related resources and configurations are cleared. If the training job ID does not exist or you do not have the operation permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:trainJob:delete	Write	trainJob *	g:ResourceTag/<tag-key>	-	-
		-	• modelarts:poolType • modelarts:poolId		

URI

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

Table 5-310 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
training_job_id	Yes	String	**Definition**: Training job ID. For details, see **Obtaining Training Jobs**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 202

No Content

None

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 on ModelArts. Only jobs in the creating, awaiting, or running state can be terminated.

This API applies to the following scenario: When you need to terminate an ongoing training job, you can use this API to do so. Before using this API, ensure that there is a running training job and you have the permission to terminate the job. After the termination is complete, the training job stops running, and resources are released. If the training job ID does not exist, the job is not in the appropriate running state, or you do not have the operation permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:trainJob:create	Write	trainJob *	-	-	-
		-	• g:RequestTag/<tag-key> • g:TagKeys • modelarts:poolType • modelarts:poolId		

URI

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

Table 5-311 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
training_job_id	Yes	String	**Definition**: Training job ID. For details, see **Obtaining Training Jobs**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 5-312 Request body parameters

Parameter	Mandatory	Type	Description
action_type	Yes	String	**Definition**: Operation request for a training job. **Constraints**: N/A **Range**: • **terminate**: Terminate a training job. **Default Value**: N/A

Response Parameters

Status code: 202

Table 5-313 Response body parameters

Parameter	Type	Description
kind	String	**Definition**: Type of a training job. **Range** • **job**: common job • **federated_pool_job**: resource pool federated job • **edge_job**: edge job • **hetero_job**: heterogeneous job • **mrs_job**: MRS job • **autosearch_job**: auto search job • **diag_job**: diagnosis job • **visualization_job**: visualization job
metadata	**JobMetadataResponse** object	**Definition**: Training job metadata.
status	**Status** object	**Definition**: Training job status information.
algorithm	**JobAlgorithmResponse** object	**Definition**: Training job algorithm.
tasks	Array of **TaskResponse** objects	**Definition**: Heterogeneous training tasks.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
spec	SpecResponse object	**Definition**: Training job specifications.
endpoints	JobEndpointsResp object	**Definition**: Configurations required for remotely accessing a training job.

Table 5-314 JobMetadataResponse

Parameter	Type	Description
id	String	**Definition**: Training job ID, which is generated and returned by ModelArts after a training job is created. **Range**: N/A
name	String	**Definition**: Name of a training job. **Range**: The value must contain 1 to 64 characters consisting of only digits, letters, underscores (_), and hyphens (-).
workspace_id	String	**Definition**: Workspace where a specified job is located. **Range**: N/A
description	String	**Definition**: Definition of a training job. **Range**: N/A
create_time	Long	**Definition**: Time when a training job was created, in milliseconds. The value is generated and returned by ModelArts after a training job is created. **Range**: N/A
user_name	String	**Definition**: Username for creating a training job. The username is generated and returned by ModelArts after a training job is created. **Range**: N/A
annotations	Map<String,String>	**Definition**: Advanced functions of a training job.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-315 Status

Parameter	Type	Description
phase	String	**Definition**: Level-1 status of a training job. **Range**: • **Creating**: The job is being created. • **Pending**: The job is pending. • **Running**: The job is running. • **Failed**: The job failed to run. • **Completed**: The job is complete. • **Terminating**: The job is being stopped. • **Terminated**: The job has been stopped. • **Abnormal**: The job is abnormal.
secondary_phase	String	**Definition**: 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. **Range**: • **Creating**: The job is being created. • **Queuing**: The job is queuing. • **Running**: The job is running. • **Failed**: The job failed to run. • **Completed**: The job is complete. • **Terminating**: The job is being stopped. • **Terminated**: The job has been stopped. • **CreateFailed**: The job fails to be created. • **TerminatedFailed**: The job fails to be stopped. • **Unknown**: The job is in an unknown state. • **Lost**: The job is abnormal.
duration	Long	**Definition**: Running duration of a training job, in ms. **Range**: N/A
node_count_metrics	Array<Array<Integer>>	**Definition**: Node quantity change metric during a training job runtime.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
tasks	Array of strings	**Definition**: Training job subtask name.
start_time	Long	**Definition**: Timestamp when a training job is started. **Range**: N/A
task_statuses	Array of **TaskStatuses** objects	**Definition**: Status of the first failed subtask of a training job.
running_records	Array of **RunningRecord** objects	**Definition**: Running and fault recovery records of a training job.

Table 5-316 TaskStatuses

Parameter	Type	Description
task	String	**Definition**: Training job subtask name. **Range**: N/A
exit_code	Integer	**Definition**: Exit code of a training job subtask. **Range**: N/A
message	String	**Definition**: Error message of a training job subtask. **Range**: N/A

Table 5-317 RunningRecord

Parameter	Type	Description
start_at	Integer	**Definition**: Unix timestamp of the start time in the current running record, in seconds. **Range**: N/A
end_at	Integer	**Definition**: Unix timestamp of the end time in the current running record, in seconds. **Range**: N/A
xpu_start_at	Integer	**Definition**: Unix timestamp of the accelerator card startup time in the current running record, in seconds. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
start_type	String	**Definition**: Startup mode of the current execution. **Range** • **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	**Definition**: Reason why the running ends. **Range**: N/A
end_related_task	String	**Definition**: ID of the task worker (for example, **worker-0**) that ends the running. **Range**: N/A
end_recover	String	**Definition**: Fault tolerance policy adopted when the execution ends abnormally. **Range** • **npu_proc_restart**: NPU in-place hot recovery • **proc_restart**: in-place process recovery • **npu_step_retry**: step recomputation • **pod_reschedule**: pod-level rescheduling • **job_reschedule**: job-level rescheduling • **job_reschedule_with_taint**: isolated job-level rescheduling
end_recover_before_downgrade	String	**Definition**: There is a downgrade relationship between policies. If a policy fails to be executed, it will be downgraded to another specified policy. **end_recover_before_downgrade** indicates the tolerance policy used before **end_recover** is downgraded. **Range**: same as that of **end_recover**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
recover_records	Array of **RecoverRecord** objects	**Definition**: details about all fault tolerance policies adopted when the execution ends abnormally.

Table 5-318 RecoverRecord

Parameter	Type	Description
recover_start_at	Integer	Unix timestamp of the start time of the fault tolerance policy, in seconds. The timestamp is also the fault occurrence time.
recover_end_at	Integer	Unix timestamp of the end time of the fault tolerance policy, in seconds.
recover	String	Fault tolerance policy. Options: • **npu_step_retry**: step recomputation • **npu_proc_restart**: NPU in-place hot recovery • **proc_restart**: in-place process recovery • **pod_reschedule**: pod-level rescheduling • **job_reschedule**: job-level rescheduling • **job_reschedule_with_taint**: isolated job-level rescheduling
fault_scenario	String	Fault scenario. Options: • **chip_fault**: chip fault • **node_fault**: node fault • **job_failed**: job exit upon a failure • **job_hanged**: job suspension • **job_subhealth**: job subhealth • **error_in_log**: log exception
reason	String	Cause of the fault.
related_task	String	ID of the task worker that causes the end of the current running record, for example, **worker-0**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
recover_result	String	Execution result of the fault. Options: • **recovering**: executing • **success**: successful • **failed**: failed • **downgrade**: policy downgrade

Table 5-319 JobAlgorithmResponse

Parameter	Type	Description
id	String	**Definition**: Training job algorithm. **Range**: • **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	**Definition**: Algorithm name. **Range**: N/A
subscription_id	String	**Definition**: Subscription ID of a subscription algorithm, which must be used with **item_version_id**. **Range**: N/A
item_version_id	String	**Definition**: Version of a subscription algorithm, which must be used with **subscription_id**. **Range**: N/A
code_dir	String	**Definition**: Code directory of a training job, for example, **/usr/app/**. This parameter must be used with **boot_file**. Leave this parameter blank if **id**, or **subscription_id** and **item_version_id** are specified. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
boot_file	String	**Definition**: 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. **Range**: N/A
autosearch_config_path	String	**Definition**: YAML configuration path of an auto search job. An OBS URL is required. For example, **obs://bucket/file.yaml**. **Range**: N/A
autosearch_framework_path	String	**Definition**: Framework code directory of an auto search job. An OBS URL is required. For example, **obs://bucket/files/**. **Range**: N/A
command	String	**Definition**: Boot command for starting the container of a custom image for a training job. For example, **python train.py**. **Range**: N/A
parameters	Array of **ParameterResp** objects	**Definition**: Running parameters of the training job.
policies	**policies** object	**Definition**: Policy supported by a job.
inputs	Array of **InputResp** objects	**Definition**: Data input of a training job.
outputs	Array of **OutputResp** objects	**Definition**: Output of the training job.
engine	**JobEngineResp** object	**Definition**: 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
local_code_dir	String	**Definition**: Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: • 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. **Range**: N/A
working_dir	String	**Definition**: Work directory where an algorithm is executed. Rules: In v1 compatibility mode, this parameter does not take effect. **Range**: N/A
environments	Array of Map<String,String> objects	**Definition**: Environment variables of a training job. The format is **key:value**. Leave this parameter blank.
summary	**SummaryResp** object	**Definition**: Visualization log summary.

Table 5-320 ParameterResp

Parameter	Type	Description
name	String	**Definition**: Parameter name. **Range**: N/A
value	String	**Definition**: Parameter value. **Range**: N/A
description	String	**Definition**: Parameter description. **Range**: N/A
constraint	**constraint** object	**Definition**: Parameter attribute.
i18n_description	**i18n_description** object	**Definition**: Internationalization description.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-321 constraint

Parameter	Type	Description
editable	Boolean	**Definition**: Whether the parameter can be edited. **Range**: • **true**: editable • **false**: Not uneditable
required	Boolean	**Definition**: Whether the parameter is mandatory. **Range**: • **true**: mandatory • **false**: optional
sensitive	Boolean	**Definition**: Whether the parameter is sensitive. This function is unavailable currently. **Range**: • **true**: sensitive • **false**: insensitive
valid_range	Array of strings	**Definition**: Valid range.

Table 5-322 i18n_description

Parameter	Type	Description
language	String	**Definition**: Internationalization language. The options are as follows: • **zh-cn**: Chinese • **en-us**: English](tag:hc,hk) **Range**: N/A
description	String	**Definition**: Internationalization language description. **Range**: N/A

Table 5-323 policies

Parameter	Type	Description
auto_search	**auto_search** object	**Definition**: Hyperparameter search configuration.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-324 auto_search

Parameter	Type	Description
skip_search_params	String	**Definition**: Hyperparameter parameters that need to be skipped. **Range**: N/A
reward_attrs	Array of **reward_attrs** objects	**Definition**: Search metrics.
search_params	Array of **search_params** objects	**Definition**: Search parameters.
algo_configs	Array of **algo_configs** objects	**Definition**: Search algorithm configurations.

Table 5-325 reward_attrs

Parameter	Type	Description
name	String	**Definition**: Metric name. **Range**: N/A
mode	String	**Definition**: Search mode. **Range**: • **max**: A larger metric value is preferred. • **min**: A smaller metric value is preferred.
regex	String	**Definition**: Regular expression of a metric. **Range**: N/A

Table 5-326 search_params

Parameter	Type	Description
name	String	**Definition**: Hyperparameter name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
param_type	String	**Definition**: Parameter type. **Range**: • **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	**Definition**: Lower bound of the hyperparameter. **Range**: N/A
upper_bound	String	**Definition**: Upper bound of the hyperparameter. **Range**: N/A
discrete_points_num	String	**Definition**: Number of discrete points of a hyperparameter with continuous values. **Range**: N/A
discrete_values	Array of strings	**Definition**: Discrete hyperparameter values.

Table 5-327 algo_configs

Parameter	Type	Description
name	String	**Definition**: Search algorithm name. **Range**: N/A
params	Array of **AutoSearchAlgoConfigParameterResp** objects	**Definition**: Search algorithm parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-328 AutoSearchAlgoConfigParameterResp

Parameter	Type	Description
key	String	**Definition**: Parameter key. **Range**: N/A
value	String	**Definition**: Parameter value. **Range**: N/A

Table 5-329 InputResp

Parameter	Type	Description
name	String	**Definition**: Name of the data input channel. **Range**: N/A
description	String	**Definition**: Description of the data input channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data input channels are mapped. Example: **/home/ma-user/modelarts/inputs/data_url_0** **Range**: N/A
access_method	String	**Definition**: Access method of the input data channel path (**local_dir**). **Range**: • **parameter**: hyperparameters • **env**: environment variables
remote	**InputDataInfoResp** object	**Definition**: Description of the actual data input.
remote_constraint	Array of **remote_constraint** objects	**Definition**: Data input constraint.

Table 5-330 InputDataInfoResp

Parameter	Type	Description
dataset	**dataset** object	**Definition**: The input is a dataset.
obs	**obs** object	**Definition**: OBS in which data input and output are stored.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-331 dataset

Parameter	Type	Description
id	String	**Definition**: Dataset ID of a training job. **Range**: N/A
version_id	String	**Definition**: Dataset version ID of a training job. **Range**: N/A
obs_url	String	**Definition**: 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/**. **Range**: N/A

Table 5-332 obs

Parameter	Type	Description
obs_url	String	**Definition**: OBS URL of the dataset for a training job, For example, **/usr/data/**. **Range**: N/A

Table 5-333 remote_constraint

Parameter	Type	Description
data_type	String	**Definition**: Data input type, including the data storage location and dataset. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
attributes	String	**Definition**: Related attributes. **Constraints**: N/A **Range**: If the input is a dataset: • **data_format**: data format • **data_segmentation**: data segmentation method • **dataset_type**: data labeling type **Default Value**: N/A

Table 5-334 OutputResp

Parameter	Type	Description
name	String	**Definition**: Name of the data output channel. **Range**: N/A
description	String	**Definition**: Description of the data output channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data output channels are mapped. **Range**: N/A
access_method	String	**Definition**: Access method of the input data channel path (**local_dir**). **Range**: • **parameter**: hyperparameters • **env**: environment variables
remote	RemoteResp object	**Definition**: Description of the actual data output.

Table 5-335 JobEngineResp

Parameter	Type	Description
engine_id	String	**Definition**: Engine ID selected for a training job. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
engine_name	String	**Definition**: Engine name selected for a training job. **Range**: N/A
engine_version	String	**Definition**: Engine version selected for a training job. **Range**: N/A
image_url	String	**Definition**: Custom image URL selected for a training job. The URL is obtained from SWR. **Range**: N/A
install_sys_packages	Boolean	**Definition**: Specifies whether to install the MoXing version specified by the training platform. **Range**: • **true**: yes • **false**: no

Table 5-336 SummaryResp

Parameter	Type	Description
log_dir	**LogDirResp** object	**Definition**: Visualization log output of a training job.
data_sources	Array of **DataSourceResp** objects	**Definition**: Visualization log input of the visualization job or training job debugging mode.

Table 5-337 LogDirResp

Parameter	Type	Description
pfs	**PFSSummaryResp** object	**Definition**: Output of an OBS parallel file system.

Table 5-338 PFSSummaryResp

Parameter	Type	Description
pfs_path	String	**Definition**: URL of the OBS parallel file system. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-339 DataSourceResp

Parameter	Type	Description
job	**JobSummaryResp** object	**Definition**: Job data source.

Table 5-340 JobSummaryResp

Parameter	Type	Description
job_id	String	**Definition**: ID of a training job. **Range**: N/A

Table 5-341 TaskResponse

Parameter	Type	Description
role	String	**Definition**: Task role. This function is not supported currently. **Range**: N/A
algorithm	**TaskResponseAlgorithm** object	**Definition**: Algorithm configurations for algorithm management.
task_resource	**FlavorResponse** object	**Definition**: Specifications of a training job or algorithm.
log_export_path	**log_export_path** object	**Definition**: Saved information about training job logs.

Table 5-342 TaskResponseAlgorithm

Parameter	Type	Description
code_dir	String	**Definition**: Absolute path of the directory where the algorithm boot file is stored. **Range**: N/A
boot_file	String	**Definition**: Absolute path of an algorithm boot file. **Range**: N/A
inputs	**AlgorithmInput** object	**Definition**: Information about the algorithm input channel.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
outputs	**AlgorithmOutput** object	**Definition**: Information about the algorithm output channel.
engine	**AlgorithmEngine** object	**Definition**: Engine that a heterogeneous job depends on.
local_code_dir	String	**Definition**: Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: • 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. **Range**: N/A
working_dir	String	**Definition**: Work directory where an algorithm is executed. Note that this parameter does not take effect in v1 compatibility mode. **Range**: N/A
environments	Map<String,String>	**Definition**: Environment variables related to a training job. **Range**: N/A

Table 5-343 AlgorithmInput

Parameter	Type	Description
name	String	**Definition**: Name of the data input channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data input and output channels are mapped. **Range**: N/A
remote	**AlgorithmRemote** object	**Definition**: Actual data input, which can only be OBS for heterogeneous jobs.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-344 AlgorithmRemote

Parameter	Type	Description
obs	**RemoteObsResp** object	**Definition**: OBS in which data input and output are stored.

Table 5-345 AlgorithmOutput

Parameter	Type	Description
name	String	**Definition**: Name of the data output channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data output channels are mapped. **Range**: N/A
remote	**RemoteResp** object	**Definition**: Description of the actual data output.
mode	String	**Definition**: Data transmission mode. The default value is **upload_periodically**. **Range**: N/A
period	String	**Definition**: Data transmission period. The default value is **30s**. **Range**: N/A

Table 5-346 RemoteResp

Parameter	Type	Description
obs	**RemoteObsResp** object	**Definition**: Data actually output to OBS.

Table 5-347 RemoteObsResp

Parameter	Type	Description
obs_url	String	**Definition**: Path of the data output to OBS. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-348 AlgorithmEngine

Parameter	Type	Description
engine_id	String	**Definition**: Engine flavor ID, for example, **caffe-1.0.0-python2.7**. **Range**: N/A
engine_name	String	**Definition**: Engine flavor name, for example, **Caffe**. **Range**: N/A
engine_version	String	**Definition**: Engine flavor version. Engines with the same name have multiple versions, for example, **Caffe-1.0.0-python2.7** of Python 2.7. **Range**: N/A
v1_compatible	Boolean	**Definition**: Specifies whether the v1 compatibility mode is used. **Range**: • **true**: The v1 compatibility mode is used. • **false**: The v1 compatibility mode is not used.
run_user	String	**Definition**: Default UID for the engine startup. **Range**: N/A
image_url	String	**Definition**: Custom image URL selected for an algorithm. **Range**: N/A

Table 5-349 FlavorResponse

Parameter	Type	Description
pool_id	String	**Definition**: ID of the resource pool selected for a training job. **Range**: N/A
flavor_id	String	**Definition**: Resource flavor ID. **Range**: N/A
flavor_name	String	**Definition**: Resource flavor name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
max_num	Integer	**Definition**: Maximum number of nodes supported by a flavor. **Range**: N/A
billing	**BillingInfo** object	**Definition**: Billing information of a resource flavor.
flavor_info	**FlavorInfoResponse** object	**Definition**: Resource flavor details.
attributes	Map<String,String>	**Definition**: Other flavor attributes. **Range**: N/A

Table 5-350 FlavorInfoResponse

Parameter	Type	Description
max_num	Integer	**Definition**: Maximum number of nodes that can be selected. The value **1** indicates that the distributed mode is not supported. **Range**: N/A
cpu	**Cpu** object	**Definition**: CPU specifications.
gpu	**Gpu** object	**Definition**: GPU specifications.
npu	**Npu** object	**Definition**: Ascend specifications.
memory	**Memory** object	**Definition**: Memory information.
disk	**DiskResponse** object	**Definition**: Disk information.

Table 5-351 DiskResponse

Parameter	Type	Description
size	Integer	**Definition**: Disk size. **Range**: N/A
unit	String	**Definition**: Unit of the disk size. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-352 log_export_path

Parameter	Type	Description
obs_url	String	**Definition**: OBS path for storing training job logs.

Table 5-353 SpecResponse

Parameter	Type	Description
resource	**Resource** object	**Definition**: Resource flavor of a training job. Select either **flavor_id** or **pool_id** and **flavor_id**.
volumes	Array of **JobVolumeResp** objects	**Definition**: Mounting volume information of a training job.
log_export_path	**LogExportPathResp** object	**Definition**: Log output of a training job.
schedule_policy	**SchedulePolicyResp** object	**Definition**: Scheduling policy of a training job.
custom_metrics	Array of **CustomMetrics** objects	**Definition**: Metric collection configuration.

Table 5-354 Resource

Parameter	Type	Description
policy	String	**Definition**: Resource flavor mode of a training job. **Range**: • **regular**: standard mode

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
flavor_id	String	**Definition**: ID of the resource flavor of a training job. **Range**: The **flavor_id** parameter cannot be specified for a dedicated resource pool of CPU specifications. The options for dedicated resource pools with GPU/Ascend specifications are as follows: • **modelarts.pool.visual.xlarge** (1 PU) • **modelarts.pool.visual.2xlarge** (2 PUs) • **modelarts.pool.visual.4xlarge** (4 PUs) • **modelarts.pool.visual.8xlarge** (8 PUs)
flavor_name	String	**Definition**: Read-only flavor name returned by ModelArts when **flavor_id** is used. **Range**: N/A
node_count	Integer	**Definition**: Number of resource replicas selected for a training job. **Range**: N/A
pool_id	String	**Definition**: ID of the resource pool selected for a training job. **Range**: N/A
pool_group_id	String	**Definition**: ID of the resource pool federation selected for a training job. **Range**: N/A
flavor_detail	**FlavorDetail** object	**Definition**: Flavor details of a training job or algorithm. This parameter is available only for public resource pools.
main_container_allocated_resources	**MainContainerAllocatedResources** object	**Definition**: Resource specifications actually obtained by the training container of a training job.
main_container_customized_flavor	**MainContainerCustomizedFlavor** object	**Definition**: Custom flavor of a training job. **Range**: The number of CPU cores and memory size must be greater than 0, and the number of accelerator PUs must be greater than or equal to 0.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-355 FlavorDetail

Parameter	Type	Description
billing	**BillingInfo** object	**Definition**: Billing information of a resource flavor.
flavor_info	**FlavorInfo** object	**Definition**: Resource flavor details.

Table 5-356 BillingInfo

Parameter	Type	Description
code	String	**Definition**: Billing code. **Range**: N/A
unit_num	Integer	**Definition**: Billing unit. **Range**: N/A

Table 5-357 FlavorInfo

Parameter	Type	Description
max_num	Integer	**Definition**: Maximum number of nodes that can be selected. The value **1** indicates that the distributed mode is not supported. **Range**: N/A
cpu	**Cpu** object	**Definition**: CPU specifications.
gpu	**Gpu** object	**Definition**: GPU specifications.
npu	**Npu** object	**Definition**: Ascend specifications.
memory	**Memory** object	**Definition**: Memory information.
disk	**Disk** object	**Definition**: Disk information.

Table 5-358 Cpu

Parameter	Type	Description
arch	String	**Definition**: CPU architecture. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
core_num	Integer	**Definition**: Number of cores. **Range**: N/A

Table 5-359 Gpu

Parameter	Type	Description
unit_num	Integer	**Definition**: Number of GPUs. **Range**: N/A
product_name	String	**Definition**: Product name. **Range**: N/A
memory	String	**Definition**: Memory. **Range**: N/A

Table 5-360 Npu

Parameter	Type	Description
unit_num	String	**Definition**: Number of NPUs. **Range**: N/A
product_name	String	**Definition**: Product name. **Range**: N/A
memory	String	**Definition**: Memory. **Range**: N/A

Table 5-361 Memory

Parameter	Type	Description
size	Integer	**Definition**: Memory size. **Range**: N/A
unit	String	**Definition**: Number of memory units. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-362 Disk

Parameter	Type	Description
size	String	**Definition**: Disk size. **Range**: N/A
unit	String	**Definition**: Unit of the disk size. Generally, the unit is GB. **Range**: N/A

Table 5-363 MainContainerAllocatedResources

Parameter	Type	Description
cpu_arch	String	**Definition**: CPU architecture. **Range**: N/A
cpu_core_num	Float	**Definition**: Number of cores. **Range**: N/A
mem_size	Float	**Definition**: Memory information. **Range**: N/A
accelerator_num	Float	**Definition**: Number of accelerator cards. **Range**: N/A
accelerator_type	String	**Definition**: Type of accelerator cards. For example, ascend-d910b and ascend-snt9c. **Range**: N/A

Table 5-364 MainContainerCustomizedFlavor

Parameter	Type	Description
cpu_core_num	Float	**Definition**: Number of CPU cores. **Range**: greater than 0
mem_size	Float	**Definition**: Memory size. **Range**: greater than 0
accelerator_num	Float	**Definition**: Number of accelerator cards. **Range**: greater than or equal to 0

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-365 JobVolumeResp

Parameter	Type	Description
nfs	**NfsResp** object	**Definition**: Volumes attached in NFS mode.

Table 5-366 NfsResp

Parameter	Type	Description
nfs_server_path	String	**Definition**: NFS server path, for example, **10.10.10.10:/example/path**. **Range**: N/A
local_path	String	**Definition**: Path for attaching volumes to the training container, for example, **/example/path**. **Range**: N/A
read_only	Boolean	**Definition**: Specifies whether the disks attached to the container in NFS mode are read-only. **Range**: • **true**: read only • **false**: non-read-only

Table 5-367 LogExportPathResp

Parameter	Type	Description
obs_url	String	**Definition**: OBS path for storing training job logs, for example, **obs://example/path**. **Range**: N/A
host_path	String	**Definition**: Path of the host where training job logs are stored, for example, **/example/path**. **Range**: N/A

Table 5-368 SchedulePolicyResp

Parameter	Type	Description
required_affinity	**RequiredAffinityResp** object	**Definition**: Affinity requirements of a training job.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
priority	Integer	**Definition**: Priority of a training job. **Range**: **0** to **3**
preemptible	Boolean	**Definition**: Whether the resource can be preempted. **Range**: • **true**: The resource can be preempted. • **false**: The resource cannot be preempted.

Table 5-369 RequiredAffinityResp

Parameter	Type	Description
affinity_type	String	**Definition**: Affinity scheduling policy. **Range**: • **cabinet**: strong cabinet scheduling • **hyperinstance**: supernode affinity scheduling
affinity_group_size	Integer	**Definition**: Size of an affinity group. **Range**: N/A

Table 5-370 CustomMetrics

Parameter	Type	Description
exec	**Exec** object	**Definition**: Metrics are collected in CLI mode.
http_get	**HttpGet** object	**Definition**: Metrics are collected in HTTP mode.

Table 5-371 Exec

Parameter	Type	Description
command	Array of strings	**Definition**: Metrics are collected in CLI mode.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-372 HttpGet

Parameter	Type	Description
path	String	**Definition**: URL for obtaining metrics over HTTP. Both the URL and the port below must either be configured together or remain empty. **Range**: N/A
port	Integer	**Definition**: Port for obtaining metrics over HTTP. This parameter and the URL above must be set or left blank at the same time. **Range**: N/A

Table 5-373 JobEndpointsResp

Parameter	Type	Description
ssh	**SSHResp** object	**Definition**: SSH connection information.
jupyter_lab	**JupyterLab** object	**Definition**: JupyterLab connection information.
tensorboard	**Tensorboard** object	**Definition**: TensorBoard connection information.
mindstudio_insight	**MindStudioInsight** object	**Definition**: MindStudio Insight connection information.

Table 5-374 SSHResp

Parameter	Type	Description
key_pair_names	Array of strings	**Definition**: Name of the SSH key pair, which can be created and viewed on the **Key Pair** page of the Elastic Cloud Server (ECS) console. **Range**: N/A
task_urls	Array of **TaskUrls** objects	**Definition**: SSH connection address.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-375 TaskUrls

Parameter	Type	Description
task	String	**Definition**: Task ID of a training job. **Range**: N/A
url	String	**Definition**: SSH connection address of a training job. **Range**: N/A

Table 5-376 JupyterLab

Parameter	Type	Description
url	String	**Definition**: JupyterLab address of a training job. **Range**: N/A
token	String	**Definition**: JupyterLab token of a training job. **Range**: N/A

Table 5-377 Tensorboard

Parameter	Type	Description
url	String	**Definition**: TensorBoard address of a training job. **Range**: N/A
token	String	**Definition**: TensorBoard token of a training job. **Range**: N/A

Table 5-378 MindStudioInsight

Parameter	Type	Description
url	String	**Definition**: MindStudio Insight address of a training job. **Range**: N/A
token	String	**Definition**: MindStudio Insight token of a training job. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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/3faf5c03-aaa1-4cbe-879d-24b05d997347/actions

{
  "action_type" : "terminate"
}
```

Example Responses

Status code: 202

ok


```
{
  "kind" : "job",
  "metadata" : {
    "id" : "3faf5c03-aaa1-4cbe-879d-24b05d997347",
    "name" : "trainjob--py14_mem06-110",
    "description" : "",
    "create_time" : 1636515222282,
    "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,
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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 on ModelArts (preview).

This API applies to the following scenario: When you need to view the running logs of a specified task in a training job, you can use this API to preview the logs. Before using this API, ensure that you have obtained the training job ID and task ID and have the permission to view logs. After the query is complete, the platform returns the preview information of the task logs. If the training job ID or task ID does not exist, no task log is generated, or you do not have the operation permission, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:trainJob:get	Read	trainJob *	g:ResourceTag/<tag-key>	-	-
		-	• modelarts:poolType • modelarts:poolId		

URI

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

Table 5-379 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
training_job_id	Yes	String	**Definition**: Training job ID. For details, see **Obtaining Training Jobs**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
task_id	Yes	String	**Definition**: Name of a training job. You can obtain the value from the **status.tasks** field in the training job details. **Constraints**: For one node, the default is **worker-0**. For multiple nodes, it includes **worker-0**, **worker-1**, and so on. **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
training_job_id	Yes	String	**Definition**: Training job ID. For details, see **Obtaining Training Jobs**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
task_id	Yes	String	**Definition**: Name of a training job. You can obtain the value from the **status.tasks** field in the training job details. **Constraints**: For one node, the default is **worker-0**. For multiple nodes, it includes **worker-0**, **worker-1**, and so on. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

None

Response Parameters

Status code: 200

Table 5-380 Response body parameters

Parameter	Type	Description
content	String	**Definition**: 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 March 1, 2022, 00:00:00 (GMT+08:00), the parameter name is changed from **context** to **content**. **Range**: N/A
current_size	Integer	**Definition**: Size of the returned log file, in bytes. The maximum value is 5 MB. **Range**: N/A
full_size	Integer	**Definition**: Size of the complete log file, in bytes. **Range**: N/A

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
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

\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 OBS link where the log files of a specified training job are stored.

This API is used when you need to view or download the detailed log information of a training job task. Before using this API, ensure that the training job task exists and you have the required permission. After the query, the API returns the OBS link where the log files of the specified task are stored. If the training job task does not exist or you do not have the required permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:trainJob:logExport	Write	trainJob *	-	-	-

URI

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

Table 5-381 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
training_job_id	Yes	String	**Definition**: Training job ID. For details, see **Obtaining Training Jobs**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
task_id	Yes	String	**Definition**: Name of a training job. You can obtain the value from the **status.tasks** field in the training job details. **Constraints**: For one node, the default is **worker-0**. For multiple nodes, it includes **worker-0**, **worker-1**, and so on. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 5-382 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	No	String	**Definition**: Message body type. **Constraints**: N/A **Range** • **text/plain**: A temporary preview link is returned. • **application/octet-stream**: A temporary download link is returned. **Default Value**: N/A

Response Parameters

Status code: 200

Table 5-383 Response body parameters

Parameter	Type	Description
obs_url	String	**Definition**: Temporary OBS URL of logs. You can copy the URL to the browser to view all logs. **Range**: N/A

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"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 on ModelArts.

This API applies to the following scenario: When you need to view the performance metrics of a specified task in a training job, you can call this API to obtain the running metrics. Before using this API, ensure that you have obtained the training job ID and task ID and have the permission to view running metrics. After the query is complete, the platform returns the performance metrics of the task. If the training job ID or task ID does not exist, no task metric is generated, or you do not have the operation permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:trainJob:get	Read	trainJob *	g:ResourceTag/<tag-key>	-	-

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
		-	• modelarts:poolType • modelarts:poolId		

URI

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

Table 5-384 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
training_job_id	Yes	String	**Definition**: Training job ID. For details, see **Obtaining Training Jobs**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
task_id	Yes	String	**Definition**: Name of a training job. You can obtain the value from the **status.tasks** field in the training job details. **Constraints**: For one node, the default is **worker-0**. For multiple nodes, it includes **worker-0**, **worker-1**, and so on. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

None

Response Parameters

Status code: 200

Table 5-385 Response body parameters

Parameter	Type	Description
metrics	Array of **MetricObject** objects	**Definition**: Running metrics.

Table 5-386 MetricObject

Parameter	Type	Description
metric	String	**Definition**: Running metrics. **Range**: • **cpuUsage**: CPU usage • **memUsage**: physical memory usage • **gpuUtil**: GPU usage • **gpuMemUsage**: GPU memory usage • **npuUtil**: NPU usage • **npuMemUsage**: NPU memory usage
value	Array of doubles	**Definition**: 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
  "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 obtain the list of all training jobs on ModelArts.

This API applies to the following scenarios: When you need to view all training jobs on the platform, you can use this API to obtain the job list. Before using this API, ensure that you have the permission to view the training job list. After the query is complete, the platform returns a training job list. Information such as the training job name, ID, and status is displayed. If you do not have the permission to perform operations, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:trainJob:list	List	-	-	-	-

URI

POST /v2/{project_id}/training-job-searches

Table 5-387 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

Table 5-388 Request body parameters

Parameter	Mandatory	Type	Description
workspace_id	No	String	**Definition**: Workspace ID. **Constraints**: N/A. **Range**: 0 or a string of 32 characters. **Default Value**: **0**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
offset	No	Integer	**Definition**: Number of pages for querying jobs. **Constraints**: The minimum value is **0**. For example, if this parameter is set to **0**, the query starts from the first page. **Range**: N/A **Default Value**: N/A
limit	No	Integer	**Definition**: Number of records on each page for querying jobs. **Constraints**: The value ranges from 1 to 50. **Range**: N/A **Default Value**: N/A
sort_by	No	String	**Definition**: Metric for sorting jobs to be queried **create_time** is used by default. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
order	No	String	**Definition**: Order of queried jobs. **Constraints**: N/A **Range**: • **asc**: ascending order • **desc**: descending order. **Default Value**: **desc**
group_by	No	String	**Definition**: Condition for grouping the jobs to be queried **Constraints**: N/A **Range**: N/A **Default Value**: N/A
filters	No	Array of **Filter** objects	**Definition**: Filter criteria for obtaining training jobs. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-389 Filter

Parameter	Mandatory	Type	Description
operator	No	String	**Definition**: Grouping condition key operators. **Constraints**: N/A **Range**: • **between**: a range • **in**: include • **not**: not **like**: similar **Default Value**: N/A
value	No	Array of strings	**Definition**: Value of the grouping condition key. **Constraints**: The maximum value of the creation time filter is 31 days.

Response Parameters

Status code: 200

Table 5-390 Response body parameters

Parameter	Type	Description
total	Integer	**Definition**: Total number of training jobs of the current user. **Range**: N/A
count	Integer	**Definition**: Total number of training jobs that meet the search criteria of the current user. **Range**: N/A
limit	Integer	**Definition**: Number of records on each page for querying jobs. The value ranges from **1** to **50**. **Range**: N/A
offset	Integer	**Definition**: 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. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sort_by	String	**Definition**: Metric for sorting jobs to be queried **create_time** is used by default. **Range**: N/A
order	String	**Definition**: 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. **Range**: N/A
group_by	String	**Definition**: Condition for grouping the jobs to be queried **Range**: N/A
workspace_id	String	**Definition**: Workspace where a training job is deployed. The default value is 0. **Range**: N/A
ai_project	String	**Definition**: AI project to which a job belongs. The default value is **default-ai-project**. **Range**: N/A
items	Array of **JobResponse** objects	**Definition**: Details of the training jobs that meet the search criteria of the current user.

Table 5-391 JobResponse

Parameter	Type	Description
kind	String	**Definition**: Type of a training job. **Range** • **job**: common job • **federated_pool_job**: resource pool federated job • **edge_job**: edge job • **hetero_job**: heterogeneous job • **mrs_job**: MRS job • **autosearch_job**: auto search job • **diag_job**: diagnosis job • **visualization_job**: visualization job

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
metadata	**JobMetadataResponse** object	**Definition**: Training job metadata.
status	**Status** object	**Definition**: Training job status information.
algorithm	**JobAlgorithmResponse** object	**Definition**: Training job algorithm.
tasks	Array of **TaskResponse** objects	**Definition**: Heterogeneous training tasks.
spec	**SpecResponse** object	**Definition**: Training job specifications.
endpoints	**JobEndpointsResp** object	**Definition**: Configurations required for remotely accessing a training job.

Table 5-392 JobMetadataResponse

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
user_name	String	**Definition**: Username for creating a training job. The username is generated and returned by ModelArts after a training job is created. **Range**: N/A
annotations	Map<String,String>	**Definition**: Advanced functions of a training job.

Table 5-393 Status

Parameter	Type	Description
phase	String	**Definition**: Level-1 status of a training job. **Range**: • **Creating**: The job is being created. • **Pending**: The job is pending. • **Running**: The job is running. • **Failed**: The job failed to run. • **Completed**: The job is complete. • **Terminating**: The job is being stopped. • **Terminated**: The job has been stopped. • **Abnormal**: The job is abnormal.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
secondary_phase	String	**Definition**: 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. **Range**: • **Creating**: The job is being created. • **Queuing**: The job is queuing. • **Running**: The job is running. • **Failed**: The job failed to run. • **Completed**: The job is complete. • **Terminating**: The job is being stopped. • **Terminated**: The job has been stopped. • **CreateFailed**: The job fails to be created. • **TerminatedFailed**: The job fails to be stopped. • **Unknown**: The job is in an unknown state. • **Lost**: The job is abnormal.
duration	Long	**Definition**: Running duration of a training job, in ms. **Range**: N/A
node_count_metrics	Array<Array<Integer>>	**Definition**: Node quantity change metric during a training job runtime.
tasks	Array of strings	**Definition**: Training job subtask name.
start_time	Long	**Definition**: Timestamp when a training job is started. **Range**: N/A
task_statuses	Array of **TaskStatuses** objects	**Definition**: Status of the first failed subtask of a training job.
running_records	Array of **RunningRecord** objects	**Definition**: Running and fault recovery records of a training job.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-394 TaskStatuses

Parameter	Type	Description
task	String	**Definition**: Training job subtask name. **Range**: N/A
exit_code	Integer	**Definition**: Exit code of a training job subtask. **Range**: N/A
message	String	**Definition**: Error message of a training job subtask. **Range**: N/A

Table 5-395 RunningRecord

Parameter	Type	Description
start_at	Integer	**Definition**: Unix timestamp of the start time in the current running record, in seconds. **Range**: N/A
end_at	Integer	**Definition**: Unix timestamp of the end time in the current running record, in seconds. **Range**: N/A
xpu_start_at	Integer	**Definition**: Unix timestamp of the accelerator card startup time in the current running record, in seconds. **Range**: N/A
start_type	String	**Definition**: Startup mode of the current execution. **Range** • **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	**Definition**: Reason why the running ends. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
end_related_task	String	**Definition**: ID of the task worker (for example, **worker-0**) that ends the running. **Range**: N/A
end_recover	String	**Definition**: Fault tolerance policy adopted when the execution ends abnormally. **Range** • **npu_proc_restart**: NPU in-place hot recovery • **proc_restart**: in-place process recovery • **npu_step_retry**: step recomputation • **pod_reschedule**: pod-level rescheduling • **job_reschedule**: job-level rescheduling • **job_reschedule_with_taint**: isolated job-level rescheduling
end_recover_before_downgrade	String	**Definition**: There is a downgrade relationship between policies. If a policy fails to be executed, it will be downgraded to another specified policy. **end_recover_before_downgrade** indicates the tolerance policy used before **end_recover** is downgraded. **Range**: same as that of **end_recover**.
recover_records	Array of **RecoverRecord** objects	**Definition**: details about all fault tolerance policies adopted when the execution ends abnormally.

Table 5-396 RecoverRecord

Parameter	Type	Description
recover_start_at	Integer	Unix timestamp of the start time of the fault tolerance policy, in seconds. The timestamp is also the fault occurrence time.
recover_end_at	Integer	Unix timestamp of the end time of the fault tolerance policy, in seconds.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
recover	String	Fault tolerance policy. Options: • **npu_step_retry**: step recomputation • **npu_proc_restart**: NPU in-place hot recovery • **proc_restart**: in-place process recovery • **pod_reschedule**: pod-level rescheduling • **job_reschedule**: job-level rescheduling • **job_reschedule_with_taint**: isolated job-level rescheduling
fault_scenario	String	Fault scenario. Options: • **chip_fault**: chip fault • **node_fault**: node fault • **job_failed**: job exit upon a failure • **job_hanged**: job suspension • **job_subhealth**: job subhealth • **error_in_log**: log exception
reason	String	Cause of the fault.
related_task	String	ID of the task worker that causes the end of the current running record, for example, **worker-0**.
recover_result	String	Execution result of the fault. Options: • **recovering**: executing • **success**: successful • **failed**: failed • **downgrade**: policy downgrade

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-397 JobAlgorithmResponse

Parameter	Type	Description
id	String	**Definition**: Training job algorithm. **Range**: • **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	**Definition**: Algorithm name. **Range**: N/A
subscription_id	String	**Definition**: Subscription ID of a subscription algorithm, which must be used with **item_version_id**. **Range**: N/A
item_version_id	String	**Definition**: Version of a subscription algorithm, which must be used with **subscription_id**. **Range**: N/A
code_dir	String	**Definition**: Code directory of a training job, for example, **/usr/app/**. This parameter must be used with **boot_file**. Leave this parameter blank if **id**, or **subscription_id** and **item_version_id** are specified. **Range**: N/A
boot_file	String	**Definition**: 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. **Range**: N/A
autosearch_config_path	String	**Definition**: YAML configuration path of an auto search job. An OBS URL is required. For example, **obs://bucket/file.yaml**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
autosearch_framework_path	String	**Definition**: Framework code directory of an auto search job. An OBS URL is required. For example, **obs://bucket/files/**. **Range**: N/A
command	String	**Definition**: Boot command for starting the container of a custom image for a training job. For example, **python train.py**. **Range**: N/A
parameters	Array of **ParameterResp** objects	**Definition**: Running parameters of the training job.
policies	**policies** object	**Definition**: Policy supported by a job.
inputs	Array of **InputResp** objects	**Definition**: Data input of a training job.
outputs	Array of **OutputResp** objects	**Definition**: Output of the training job.
engine	**JobEngineResp** object	**Definition**: 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	**Definition**: Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: • 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. **Range**: N/A
working_dir	String	**Definition**: Work directory where an algorithm is executed. Rules: In v1 compatibility mode, this parameter does not take effect. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
environments	Array of Map<String,String> objects	**Definition**: Environment variables of a training job. The format is **key:value**. Leave this parameter blank.
summary	**SummaryResp** object	**Definition**: Visualization log summary.

Table 5-398 ParameterResp

Parameter	Type	Description
name	String	**Definition**: Parameter name. **Range**: N/A
value	String	**Definition**: Parameter value. **Range**: N/A
description	String	**Definition**: Parameter description. **Range**: N/A
constraint	**constraint** object	**Definition**: Parameter attribute.
i18n_description	**i18n_description** object	**Definition**: Internationalization description.

Table 5-399 constraint

Parameter	Type	Description
editable	Boolean	**Definition**: Whether the parameter can be edited. **Range**: • **true**: editable • **false**: Not uneditable
required	Boolean	**Definition**: Whether the parameter is mandatory. **Range**: • **true**: mandatory • **false**: optional

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sensitive	Boolean	**Definition**: Whether the parameter is sensitive. This function is unavailable currently. **Range**: • **true**: sensitive • **false**: insensitive
valid_range	Array of strings	**Definition**: Valid range.

Table 5-400 i18n_description

Parameter	Type	Description
language	String	**Definition**: Internationalization language. The options are as follows: • **zh-cn**: Chinese • **en-us**: English](tag:hc,hk) **Range**: N/A
description	String	**Definition**: Internationalization language description. **Range**: N/A

Table 5-401 policies

Parameter	Type	Description
auto_search	**auto_search** object	**Definition**: Hyperparameter search configuration.

Table 5-402 auto_search

Parameter	Type	Description
skip_search_params	String	**Definition**: Hyperparameter parameters that need to be skipped. **Range**: N/A
reward_attrs	Array of **reward_attrs** objects	**Definition**: Search metrics.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
search_params	Array of **search_params** objects	**Definition**: Search parameters.
algo_configs	Array of **algo_configs** objects	**Definition**: Search algorithm configurations.

Table 5-403 reward_attrs

Parameter	Type	Description
name	String	**Definition**: Metric name. **Range**: N/A
mode	String	**Definition**: Search mode. **Range**: • **max**: A larger metric value is preferred. • **min**: A smaller metric value is preferred.
regex	String	**Definition**: Regular expression of a metric. **Range**: N/A

Table 5-404 search_params

Parameter	Type	Description
name	String	**Definition**: Hyperparameter name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
param_type	String	**Definition**: Parameter type. **Range**: • **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	**Definition**: Lower bound of the hyperparameter. **Range**: N/A
upper_bound	String	**Definition**: Upper bound of the hyperparameter. **Range**: N/A
discrete_points_num	String	**Definition**: Number of discrete points of a hyperparameter with continuous values. **Range**: N/A
discrete_values	Array of strings	**Definition**: Discrete hyperparameter values.

Table 5-405 algo_configs

Parameter	Type	Description
name	String	**Definition**: Search algorithm name. **Range**: N/A
params	Array of **AutoSearchAlgoConfigParameterResp** objects	**Definition**: Search algorithm parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-406 AutoSearchAlgoConfigParameterResp

Parameter	Type	Description
key	String	**Definition**: Parameter key. **Range**: N/A
value	String	**Definition**: Parameter value. **Range**: N/A

Table 5-407 InputResp

Parameter	Type	Description
name	String	**Definition**: Name of the data input channel. **Range**: N/A
description	String	**Definition**: Description of the data input channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data input channels are mapped. Example: **/home/ma-user/modelarts/inputs/data_url_0** **Range**: N/A
access_method	String	**Definition**: Access method of the input data channel path (**local_dir**). **Range**: • **parameter**: hyperparameters • **env**: environment variables
remote	**InputDataInfoResp** object	**Definition**: Description of the actual data input.
remote_constraint	Array of **remote_constraint** objects	**Definition**: Data input constraint.

Table 5-408 InputDataInfoResp

Parameter	Type	Description
dataset	**dataset** object	**Definition**: The input is a dataset.
obs	**obs** object	**Definition**: OBS in which data input and output are stored.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-409 dataset

Parameter	Type	Description
id	String	**Definition**: Dataset ID of a training job. **Range**: N/A
version_id	String	**Definition**: Dataset version ID of a training job. **Range**: N/A
obs_url	String	**Definition**: 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/**. **Range**: N/A

Table 5-410 obs

Parameter	Type	Description
obs_url	String	**Definition**: OBS URL of the dataset for a training job, For example, **/usr/data/**. **Range**: N/A

Table 5-411 remote_constraint

Parameter	Type	Description
data_type	String	**Definition**: Data input type, including the data storage location and dataset. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
attributes	String	**Definition**: Related attributes. **Constraints**: N/A **Range**: If the input is a dataset: • **data_format**: data format • **data_segmentation**: data segmentation method • **dataset_type**: data labeling type **Default Value**: N/A

Table 5-412 OutputResp

Parameter	Type	Description
name	String	**Definition**: Name of the data output channel. **Range**: N/A
description	String	**Definition**: Description of the data output channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data output channels are mapped. **Range**: N/A
access_method	String	**Definition**: Access method of the input data channel path (**local_dir**). **Range**: • **parameter**: hyperparameters • **env**: environment variables
remote	RemoteResp object	**Definition**: Description of the actual data output.

Table 5-413 JobEngineResp

Parameter	Type	Description
engine_id	String	**Definition**: Engine ID selected for a training job. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
engine_name	String	**Definition**: Engine name selected for a training job. **Range**: N/A
engine_version	String	**Definition**: Engine version selected for a training job. **Range**: N/A
image_url	String	**Definition**: Custom image URL selected for a training job. The URL is obtained from SWR. **Range**: N/A
install_sys_packages	Boolean	**Definition**: Specifies whether to install the MoXing version specified by the training platform. **Range**: • **true**: yes • **false**: no

Table 5-414 SummaryResp

Parameter	Type	Description
log_dir	**LogDirResp** object	**Definition**: Visualization log output of a training job.
data_sources	Array of **DataSourceResp** objects	**Definition**: Visualization log input of the visualization job or training job debugging mode.

Table 5-415 LogDirResp

Parameter	Type	Description
pfs	**PFSSummaryResp** object	**Definition**: Output of an OBS parallel file system.

Table 5-416 PFSSummaryResp

Parameter	Type	Description
pfs_path	String	**Definition**: URL of the OBS parallel file system. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-417 DataSourceResp

Parameter	Type	Description
job	**JobSummaryResp** object	**Definition**: Job data source.

Table 5-418 JobSummaryResp

Parameter	Type	Description
job_id	String	**Definition**: ID of a training job. **Range**: N/A

Table 5-419 TaskResponse

Parameter	Type	Description
role	String	**Definition**: Task role. This function is not supported currently. **Range**: N/A
algorithm	**TaskResponseAlgorithm** object	**Definition**: Algorithm configurations for algorithm management.
task_resource	**FlavorResponse** object	**Definition**: Specifications of a training job or algorithm.
log_export_path	**log_export_path** object	**Definition**: Saved information about training job logs.

Table 5-420 TaskResponseAlgorithm

Parameter	Type	Description
code_dir	String	**Definition**: Absolute path of the directory where the algorithm boot file is stored. **Range**: N/A
boot_file	String	**Definition**: Absolute path of an algorithm boot file. **Range**: N/A
inputs	**AlgorithmInput** object	**Definition**: Information about the algorithm input channel.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
outputs	**AlgorithmOutput** object	**Definition**: Information about the algorithm output channel.
engine	**AlgorithmEngine** object	**Definition**: Engine that a heterogeneous job depends on.
local_code_dir	String	**Definition**: Local directory of the training container to which the algorithm code directory is downloaded. The rules are as follows: • 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. **Range**: N/A
working_dir	String	**Definition**: Work directory where an algorithm is executed. Note that this parameter does not take effect in v1 compatibility mode. **Range**: N/A
environments	Map<String,String>	**Definition**: Environment variables related to a training job. **Range**: N/A

Table 5-421 AlgorithmInput

Parameter	Type	Description
name	String	**Definition**: Name of the data input channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data input and output channels are mapped. **Range**: N/A
remote	**AlgorithmRemote** object	**Definition**: Actual data input, which can only be OBS for heterogeneous jobs.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-422 AlgorithmRemote

Parameter	Type	Description
obs	**RemoteObsResp** object	**Definition**: OBS in which data input and output are stored.

Table 5-423 AlgorithmOutput

Parameter	Type	Description
name	String	**Definition**: Name of the data output channel. **Range**: N/A
local_dir	String	**Definition**: Local path of the container to which the data output channels are mapped. **Range**: N/A
remote	**RemoteResp** object	**Definition**: Description of the actual data output.
mode	String	**Definition**: Data transmission mode. The default value is **upload_periodically**. **Range**: N/A
period	String	**Definition**: Data transmission period. The default value is **30s**. **Range**: N/A

Table 5-424 RemoteResp

Parameter	Type	Description
obs	**RemoteObsResp** object	**Definition**: Data actually output to OBS.

Table 5-425 RemoteObsResp

Parameter	Type	Description
obs_url	String	**Definition**: Path of the data output to OBS. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-426 AlgorithmEngine

Parameter	Type	Description
engine_id	String	**Definition**: Engine flavor ID, for example, **caffe-1.0.0-python2.7**. **Range**: N/A
engine_name	String	**Definition**: Engine flavor name, for example, **Caffe**. **Range**: N/A
engine_version	String	**Definition**: Engine flavor version. Engines with the same name have multiple versions, for example, **Caffe-1.0.0-python2.7** of Python 2.7. **Range**: N/A
v1_compatible	Boolean	**Definition**: Specifies whether the v1 compatibility mode is used. **Range**: • **true**: The v1 compatibility mode is used. • **false**: The v1 compatibility mode is not used.
run_user	String	**Definition**: Default UID for the engine startup. **Range**: N/A
image_url	String	**Definition**: Custom image URL selected for an algorithm. **Range**: N/A

Table 5-427 FlavorResponse

Parameter	Type	Description
pool_id	String	**Definition**: ID of the resource pool selected for a training job. **Range**: N/A
flavor_id	String	**Definition**: Resource flavor ID. **Range**: N/A
flavor_name	String	**Definition**: Resource flavor name. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
max_num	Integer	**Definition**: Maximum number of nodes supported by a flavor. **Range**: N/A
billing	**BillingInfo** object	**Definition**: Billing information of a resource flavor.
flavor_info	**FlavorInfoResponse** object	**Definition**: Resource flavor details.
attributes	Map<String,String>	**Definition**: Other flavor attributes. **Range**: N/A

Table 5-428 FlavorInfoResponse

Parameter	Type	Description
max_num	Integer	**Definition**: Maximum number of nodes that can be selected. The value **1** indicates that the distributed mode is not supported. **Range**: N/A
cpu	**Cpu** object	**Definition**: CPU specifications.
gpu	**Gpu** object	**Definition**: GPU specifications.
npu	**Npu** object	**Definition**: Ascend specifications.
memory	**Memory** object	**Definition**: Memory information.
disk	**DiskResponse** object	**Definition**: Disk information.

Table 5-429 DiskResponse

Parameter	Type	Description
size	Integer	**Definition**: Disk size. **Range**: N/A
unit	String	**Definition**: Unit of the disk size. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-430 log_export_path

Parameter	Type	Description
obs_url	String	**Definition**: OBS path for storing training job logs.

Table 5-431 SpecResponse

Parameter	Type	Description
resource	**Resource** object	**Definition**: Resource flavor of a training job. Select either **flavor_id** or **pool_id** and **flavor_id**.
volumes	Array of **JobVolumeResp** objects	**Definition**: Mounting volume information of a training job.
log_export_path	**LogExportPathResp** object	**Definition**: Log output of a training job.
schedule_policy	**SchedulePolicyResp** object	**Definition**: Scheduling policy of a training job.
custom_metrics	Array of **CustomMetrics** objects	**Definition**: Metric collection configuration.

Table 5-432 Resource

Parameter	Type	Description
policy	String	**Definition**: Resource flavor mode of a training job. **Range**: • **regular**: standard mode

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
flavor_id	String	**Definition**: ID of the resource flavor of a training job. **Range**: The **flavor_id** parameter cannot be specified for a dedicated resource pool of CPU specifications. The options for dedicated resource pools with GPU/Ascend specifications are as follows: • **modelarts.pool.visual.xlarge** (1 PU) • **modelarts.pool.visual.2xlarge** (2 PUs) • **modelarts.pool.visual.4xlarge** (4 PUs) • **modelarts.pool.visual.8xlarge** (8 PUs)
flavor_name	String	**Definition**: Read-only flavor name returned by ModelArts when **flavor_id** is used. **Range**: N/A
node_count	Integer	**Definition**: Number of resource replicas selected for a training job. **Range**: N/A
pool_id	String	**Definition**: ID of the resource pool selected for a training job. **Range**: N/A
pool_group_id	String	**Definition**: ID of the resource pool federation selected for a training job. **Range**: N/A
flavor_detail	**FlavorDetail** object	**Definition**: Flavor details of a training job or algorithm. This parameter is available only for public resource pools.
main_container_allocated_resources	**MainContainerAllocatedResources** object	**Definition**: Resource specifications actually obtained by the training container of a training job.
main_container_customized_flavor	**MainContainerCustomizedFlavor** object	**Definition**: Custom flavor of a training job. **Range**: The number of CPU cores and memory size must be greater than 0, and the number of accelerator PUs must be greater than or equal to 0.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-433 FlavorDetail

Parameter	Type	Description
billing	**BillingInfo** object	**Definition**: Billing information of a resource flavor.
flavor_info	**FlavorInfo** object	**Definition**: Resource flavor details.

Table 5-434 BillingInfo

Parameter	Type	Description
code	String	**Definition**: Billing code. **Range**: N/A
unit_num	Integer	**Definition**: Billing unit. **Range**: N/A

Table 5-435 FlavorInfo

Parameter	Type	Description
max_num	Integer	**Definition**: Maximum number of nodes that can be selected. The value **1** indicates that the distributed mode is not supported. **Range**: N/A
cpu	**Cpu** object	**Definition**: CPU specifications.
gpu	**Gpu** object	**Definition**: GPU specifications.
npu	**Npu** object	**Definition**: Ascend specifications.
memory	**Memory** object	**Definition**: Memory information.
disk	**Disk** object	**Definition**: Disk information.

Table 5-436 Cpu

Parameter	Type	Description
arch	String	**Definition**: CPU architecture. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
core_num	Integer	**Definition**: Number of cores. **Range**: N/A

Table 5-437 Gpu

Parameter	Type	Description
unit_num	Integer	**Definition**: Number of GPUs. **Range**: N/A
product_name	String	**Definition**: Product name. **Range**: N/A
memory	String	**Definition**: Memory. **Range**: N/A

Table 5-438 Npu

Parameter	Type	Description
unit_num	String	**Definition**: Number of NPUs. **Range**: N/A
product_name	String	**Definition**: Product name. **Range**: N/A
memory	String	**Definition**: Memory. **Range**: N/A

Table 5-439 Memory

Parameter	Type	Description
size	Integer	**Definition**: Memory size. **Range**: N/A
unit	String	**Definition**: Number of memory units. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-440 Disk

Parameter	Type	Description
size	String	**Definition**: Disk size. **Range**: N/A
unit	String	**Definition**: Unit of the disk size. Generally, the unit is GB. **Range**: N/A

Table 5-441 MainContainerAllocatedResources

Parameter	Type	Description
cpu_arch	String	**Definition**: CPU architecture. **Range**: N/A
cpu_core_num	Float	**Definition**: Number of cores. **Range**: N/A
mem_size	Float	**Definition**: Memory information. **Range**: N/A
accelerator_num	Float	**Definition**: Number of accelerator cards. **Range**: N/A
accelerator_type	String	**Definition**: Type of accelerator cards. For example, ascend-d910b and ascend-snt9c. **Range**: N/A

Table 5-442 MainContainerCustomizedFlavor

Parameter	Type	Description
cpu_core_num	Float	**Definition**: Number of CPU cores. **Range**: greater than 0
mem_size	Float	**Definition**: Memory size. **Range**: greater than 0
accelerator_num	Float	**Definition**: Number of accelerator cards. **Range**: greater than or equal to 0

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-443 JobVolumeResp

Parameter	Type	Description
nfs	**NfsResp** object	**Definition**: Volumes attached in NFS mode.

Table 5-444 NfsResp

Parameter	Type	Description
nfs_server_path	String	**Definition**: NFS server path, for example, **10.10.10.10:/example/path**. **Range**: N/A
local_path	String	**Definition**: Path for attaching volumes to the training container, for example, **/example/path**. **Range**: N/A
read_only	Boolean	**Definition**: Specifies whether the disks attached to the container in NFS mode are read-only. **Range**: • **true**: read only • **false**: non-read-only

Table 5-445 LogExportPathResp

Parameter	Type	Description
obs_url	String	**Definition**: OBS path for storing training job logs, for example, **obs://example/path**. **Range**: N/A
host_path	String	**Definition**: Path of the host where training job logs are stored, for example, **/example/path**. **Range**: N/A

Table 5-446 SchedulePolicyResp

Parameter	Type	Description
required_affinity	**RequiredAffinityResp** object	**Definition**: Affinity requirements of a training job.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
priority	Integer	**Definition**: Priority of a training job. **Range**: **0** to **3**
preemptible	Boolean	**Definition**: Whether the resource can be preempted. **Range**: • **true**: The resource can be preempted. • **false**: The resource cannot be preempted.

Table 5-447 RequiredAffinityResp

Parameter	Type	Description
affinity_type	String	**Definition**: Affinity scheduling policy. **Range**: • **cabinet**: strong cabinet scheduling • **hyperinstance**: supernode affinity scheduling
affinity_group_size	Integer	**Definition**: Size of an affinity group. **Range**: N/A

Table 5-448 CustomMetrics

Parameter	Type	Description
exec	**Exec** object	**Definition**: Metrics are collected in CLI mode.
http_get	**HttpGet** object	**Definition**: Metrics are collected in HTTP mode.

Table 5-449 Exec

Parameter	Type	Description
command	Array of strings	**Definition**: Metrics are collected in CLI mode.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-450 HttpGet

Parameter	Type	Description
path	String	**Definition**: URL for obtaining metrics over HTTP. Both the URL and the port below must either be configured together or remain empty. **Range**: N/A
port	Integer	**Definition**: Port for obtaining metrics over HTTP. This parameter and the URL above must be set or left blank at the same time. **Range**: N/A

Table 5-451 JobEndpointsResp

Parameter	Type	Description
ssh	**SSHResp** object	**Definition**: SSH connection information.
jupyter_lab	**JupyterLab** object	**Definition**: JupyterLab connection information.
tensorboard	**Tensorboard** object	**Definition**: TensorBoard connection information.
mindstudio_insight	**MindStudioInsight** object	**Definition**: MindStudio Insight connection information.

Table 5-452 SSHResp

Parameter	Type	Description
key_pair_names	Array of strings	**Definition**: Name of the SSH key pair, which can be created and viewed on the **Key Pair** page of the Elastic Cloud Server (ECS) console. **Range**: N/A
task_urls	Array of **TaskUrls** objects	**Definition**: SSH connection address.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-453 TaskUrls

Parameter	Type	Description
task	String	**Definition**: Task ID of a training job. **Range**: N/A
url	String	**Definition**: SSH connection address of a training job. **Range**: N/A

Table 5-454 JupyterLab

Parameter	Type	Description
url	String	**Definition**: JupyterLab address of a training job. **Range**: N/A
token	String	**Definition**: JupyterLab token of a training job. **Range**: N/A

Table 5-455 Tensorboard

Parameter	Type	Description
url	String	**Definition**: TensorBoard address of a training job. **Range**: N/A
token	String	**Definition**: TensorBoard token of a training job. **Range**: N/A

Table 5-456 MindStudioInsight

Parameter	Type	Description
url	String	**Definition**: MindStudio Insight address of a training job. **Range**: N/A
token	String	**Definition**: MindStudio Insight token of a training job. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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" : [ "" ]
  }, {
    "key" : "runtime_type",
    "operator" : "in",
    "value" : [ "debug" ]
  } ]
}
```

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"
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  },
  "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"
          }
        }
      }
    }
  }
 } ]
}
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	ok

Error Codes

See **Error Codes**.

5.15 Obtaining the Events of a Training Job

Function

This API is used to obtain the events of a training job on ModelArts.

This API applies to the following scenario: When you need to view the event records of a specific training job, you can use this API to obtain the event list. Before using this API, ensure that you have obtained the training job ID and have the permission to view the event list. After the query is complete, the platform returns the event records of the training job. If the training job ID does not exist or you do not have the operation permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-457 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
training_job_id	Yes	String	**Definition**: Training job ID. For details, see **Obtaining Training Jobs**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 5-458 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	**Definition**: Offset of data records **Constraints**: N/A **Range**: N/A **Default Value**: N/A
limit	No	Integer	**Definition**: Maximum number of records returned on each page **Constraints**: N/A **Range**: [1, 100] **Default Value**: **50**
order	No	String	**Definition**: Instance order **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
start_time	No	String	**Definition**: Start time **Constraints**: The start time must be passed together with the end time. **Range**: N/A **Default Value**: N/A
end_time	No	String	**Definition**: End time **Constraints**: The end time must be passed together with the start time. **Range**: N/A **Default Value**: N/A
level	No	String	**Definition**: Level of the event to be returned **Constraints**: N/A **Range**: [Info Error Warning] **Default Value**: N/A
pattern	No	String	**Definition**: Content contained in an event **Constraints**: The value can contain a maximum of 256 characters. **Range**: N/A **Default Value**: N/A
source	No	String	**Definition**: Source of the event to be returned **Constraints**: N/A **Range**: [K8S Job Task] **Default Value**: N/A

Request Parameters

Table 5-459 Request header parameters

Parameter	Mandatory	Type	Description
X-Language	No	String	**Definition**: Language **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 5-460 Response body parameters

Parameter	Type	Description
total	String	**Definition**: Total number of records. **Range**: N/A
limit	String	**Definition**: Maximum number of records that can be displayed. **Range**: N/A
offset	String	**Definition**: Start number of records. **Range**: N/A
order	String	**Definition**: Sorting mode. **Range**: N/A
start_time	String	**Definition**: Start time of an event. **Range**: N/A
end_time	String	**Definition**: End time of an event. **Range**: N/A
events	Array of **Event** objects	**Definition**: Event list.

Table 5-461 Event

Parameter	Type	Description
message	String	**Definition**: Event information. **Range**: N/A
level	String	**Definition**: Event level. **Range**: N/A
time	String	**Definition**: Time when an event occurs. **Range**: N/A
source	String	**Definition**: Event source. **Range**: N/A

Status code: 400

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-462 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

```
GET https://endpoint/v2/{project_id}/training-jobs/{training_job_id}/events?
order=desc&offset=0&limit=10&start_time=1669449696964&end_time=1669711991259
```

Example Responses

Status code: 200

ok


```
{
  "total" : 27,
  "limit" : 10,
  "offset" : 0,
  "order" : "desc",
  "start_time" : "2022-11-26T16:01:36+08:00",
  "end_time" : "2022-11-29T16:53:11+08:00",
  "events" : [ {
    "time" : "2022-11-26T16:03:41+08:00",
    "level" : "Error",
    "message" : "Training job failed.",
    "source" : "Job"
  }, {
    "time" : "2022-11-26T16:03:16+08:00",
    "level" : "Info",
    "message" : "[Job: modelarts-job-5bd61eea-9de2-4864-a0f7-5fae966171b5] ExecuteAction: Start to
execute action TerminateJob",
    "source" : "K8S"
  }, {
    "time" : "2022-11-26T16:03:12+08:00",
    "level" : "Info",
    "message" : "[worker-0][time used: 0.296s] Upload training output(parameter name: train_url) finished.",
    "source" : "Task"
  }, {
    "time" : "2022-11-26T16:03:12+08:00",
    "level" : "Info",
    "message" : "[worker-0] Training output(parameter name: train_url) Uploading.",
    "source" : "Task"
  }, {
    "time" : "2022-11-26T16:03:11+08:00",
    "level" : "Info",
    "message" : "[worker-0] Training finished. Exit code 1.",
    "source" : "Task"
  }, {
    "time" : "2022-11-26T16:02:10+08:00",
    "level" : "Info",
    "message" : "[worker-0] training started.",
    "source" : "Task"
  }, {
    "time" : "2022-11-26T16:02:09+08:00",
    "level" : "Info",
    "message" : "Training job is running.",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "source" : "Job"
  }, {
    "time" : "2022-11-26T16:02:06+08:00",
    "level" : "Info",
    "message" : "[Pod: modelarts-job-5bd61eea-9de2-4864-a0f7-5fae966171b5-worker-0] Started: Started container",
    "source" : "K8S"
  }, {
    "time" : "2022-11-26T16:02:06+08:00",
    "level" : "Info",
    "message" : "[Pod: modelarts-job-5bd61eea-9de2-4864-a0f7-5fae966171b5-worker-0] SuccessfulCreate: Created container",
    "source" : "K8S"
  }, {
    "time" : "2022-11-26T16:02:05+08:00",
    "level" : "Info",
    "message" : "[Pod: modelarts-job-5bd61eea-9de2-4864-a0f7-5fae966171b5-worker-0] Pulled: Successfully pulled image \"swr.cn-north-7.myhuaweicloud.com/modelarts-job-dev-image/modelarts-tool-container:1.0.0-5.3.1-b002.2\"",
    "source" : "K8s"
  } ]
}
```


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**.

5.16 Obtaining the General Specifications Supported by a Training Job

Function

This API is used to obtain the supported resource specifications of training jobs on ModelArts.

This API applies to the following scenario: When you need to know the resource specifications supported by the platform to configure training jobs, you can use this API to obtain the specification list. Before using this API, ensure that you have the permission to view the resource specifications. After the query is complete, the

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

platform returns the supported resource specifications. If you do not have the permission to perform operations, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v2/{project_id}/training-job-flavors

Table 5-463 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-464 Query Parameters

Parameter	Mandatory	Type	Description
flavor_type	No	String	**Definition**: Specification type to be queried. If this parameter is not specified, all specification types are queried. **Constraints**: N/A **Range** • **CPU** • **GPU** • **Ascend**: NPU resource specifications **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-465 Response body parameters

Parameter	Type	Description
total_count	Integer	**Definition**: Total number of training job resource flavors. **Range**: N/A
flavors	Array of **FlavorResponse** objects	**Definition**: List of training job resource flavors.

Table 5-466 FlavorResponse

Parameter	Type	Description
pool_id	String	**Definition**: ID of the resource pool selected for a training job. **Range**: N/A
flavor_id	String	**Definition**: Resource flavor ID. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
flavor_name	String	**Definition**: Resource flavor name. **Range**: N/A
max_num	Integer	**Definition**: Maximum number of nodes supported by a flavor. **Range**: N/A
billing	**BillingInfo** object	**Definition**: Billing information of a resource flavor.
flavor_info	**FlavorInfoResponse** object	**Definition**: Resource flavor details.
attributes	Map<String,String>	**Definition**: Other flavor attributes. **Range**: N/A

Table 5-467 BillingInfo

Parameter	Type	Description
code	String	**Definition**: Billing code. **Range**: N/A
unit_num	Integer	**Definition**: Billing unit. **Range**: N/A

Table 5-468 FlavorInfoResponse

Parameter	Type	Description
max_num	Integer	**Definition**: Maximum number of nodes that can be selected. The value **1** indicates that the distributed mode is not supported. **Range**: N/A
cpu	**Cpu** object	**Definition**: CPU specifications.
gpu	**Gpu** object	**Definition**: GPU specifications.
npu	**Npu** object	**Definition**: Ascend specifications.
memory	**Memory** object	**Definition**: Memory information.
disk	**DiskResponse** object	**Definition**: Disk information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-469 Cpu

Parameter	Type	Description
arch	String	**Definition**: CPU architecture. **Range**: N/A
core_num	Integer	**Definition**: Number of cores. **Range**: N/A

Table 5-470 Gpu

Parameter	Type	Description
unit_num	Integer	**Definition**: Number of GPUs. **Range**: N/A
product_name	String	**Definition**: Product name. **Range**: N/A
memory	String	**Definition**: Memory. **Range**: N/A

Table 5-471 Npu

Parameter	Type	Description
unit_num	String	**Definition**: Number of NPUs. **Range**: N/A
product_name	String	**Definition**: Product name. **Range**: N/A
memory	String	**Definition**: Memory. **Range**: N/A

Table 5-472 Memory

Parameter	Type	Description
size	Integer	**Definition**: Memory size. **Range**: N/A
unit	String	**Definition**: Number of memory units. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 5-473 DiskResponse

Parameter	Type	Description
size	Integer	**Definition**: Disk size. **Range**: N/A
unit	String	**Definition**: Unit of the disk size. **Range**: N/A

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
      },
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "memory" : {
      "size" : 32,
      "unit" : "GB"
    },
    "disk" : {
      "size" : 50,
      "unit" : "GB"
    }
  }
 } ]
}
```

Status Codes

Status Code	Description
200	ok

Error Codes

See **Error Codes**.

5.17 Obtaining the Preset AI Frameworks Supported by a Training Job

Function

This API is used to query the list of preset AI frameworks supported by the current system.

This API is used when you need to know the preset AI frameworks supported by the system. Before using this API, ensure that you have the required permissions. After the query, you will obtain the details of all preset AI frameworks supported by the system. If you do not have the required permission or the query fails, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

URI

GET /v2/{project_id}/training-job-engines

Table 5-474 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-475 Response body parameters

Parameter	Type	Description
total	Integer	**Definition**: Total number of training job engine flavors. **Range**: N/A
items	Array of **items** objects	**Definition**: Engine flavor parameter list.

Table 5-476 items

Parameter	Type	Description
engine_id	String	**Definition**: Engine flavor ID, for example, **caffe-1.0.0-python2.7**. **Range**: N/A
engine_name	String	**Definition**: Engine flavor name, for example, **Caffe**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
engine_version	String	**Definition**: Engine flavor version. Engines with the same name have multiple versions, for example, **Caffe-1.0.0-python2.7** of Python 2.7. **Range**: N/A
v1_compatible	Boolean	**Definition**: Specifies whether the v1 compatibility mode is used. **Range** • **true**: v1 compatibility • **false**: v1 incompatibility
run_user	String	**Definition**: Default UID for the engine startup. **Range**: N/A
image_info	**image_info** object	**Definition**: Engine information.

Table 5-477 image_info

Parameter	Type	Description
cpu_image_url	String	**Definition**: Image of the CPU flavor. **Range**: N/A
gpu_image_url	String	**Definition**: Image with the matched GPU or Ascend flavor. **Range**: N/A
image_version	String	**Definition**: Image version. **Range**: N/A

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" : [ {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

6 Model 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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 6-5 EngineAndRuntimesResponse

Parameter	Type	Description
ai_engine	String	AI engine type. The options are as follows: • **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. • **sync**: synchronous real-time service • **async**: asynchronous real-time service
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: • **x86_64** • **aarch64**
status_list	Array of strings	AI engine status. The options are as follows: • **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: • **base_image** • **uniform_image**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 6-6 Accelerator

Parameter	Type	Description
type	String	Accelerator card type. The options are as follows: • **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	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 6-8 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 6-9 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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" ],
    "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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:model:list	List	model *	-	-	-
		-	• g:RequestTag/<tag-key> • g:TagKeys		

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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	Boolean	Whether to escape underscores (*). If a model name contains underscores (*), 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: • **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**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **asc**: ascending order • **desc**: descending order (default value)
workspace_id	No	String	Workspace ID For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.
model_type	No	String	Model type. The models of this type are queried. model_type and not_model_type 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
model_id	String	Model ID
model_source	String	Model source. Options: • **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 For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.
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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
source_copy	String	Whether to enable image replication. This parameter is valid only when **model_type** is set to **Image**. • **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
extra	String	Extended parameter
specification	**ModelSpecification** object	Deployment specifications.
deployment_constraints	**DeploymentConstraints** object	Deployment constraints.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 6-16 DeploymentConstraints

Parameter	Type	Description
accelerators	Array of **Accelerator** objects	Supported accelerator card types. Custom images support only one accelerator card type during import.
cpu_type	String	CPU type.
input_types	Array of strings	Input and output type in asynchronous mode and video service scenarios, such as **OBS** and **VIS**. This parameter is used for importing custom images. Non-custom images are declared in **runtime**.
output_types	Array of strings	Input and output type in asynchronous mode and video service scenarios, such as **OBS** and **DIS**. This parameter is used for importing custom images. Non-custom images are declared in **runtime**.
request_mode	String	Request model of a job when the model is deployed as a service.
rsa	**Rsa** object	Used for secure communication between the container and inference platform or field encryption. This parameter is used for importing custom images. Non-custom images are declared in **runtime**.
service_config	String	Service deployment field, which can be specified during service deployment. This parameter is used for importing custom images. Non-custom images are declared in **runtime**. As the structure is rather complex, use the value in the XML format.
task_config	String	Field of job-related configurations, which can be specified during job creation. This parameter is used for importing custom images. Non-custom images are declared in **runtime**. As the structure is rather complex, use the value in the XML format.
model_security	**ModelSecurity** object	Model encryption and decryption parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 6-17 Accelerator

Parameter	Type	Description
type	String	Accelerator card type. The options are as follows: • **npu** • **gpu** • **none**
name	String	Accelerator card name, for example, **SNT9B**.
cuda_version	String	CUDA driver version.
driver_version_section	String	Driver version set.

Table 6-18 Rsa

Parameter	Type	Description
mode	String	Encryption mode.
private_key	String	Private key.
public_key	String	Public key.

Table 6-19 ModelSecurity

Parameter	Type	Description
model_key	String	After the model is encrypted using Edge, the root key, model key, and encrypted model can be obtained.
root_key	String	After the model is encrypted using Edge, the root key, model key, and encrypted model can be obtained.
security_policy	String	Model encryption mode.
is_verify_app	Boolean	Specifies whether to verify the files in edge scenarios, including the configuration files, container images, and library files.

Example Requests

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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" : "d04c10db1f264cfeb1966deff1a3527c",
    "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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- 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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:model:create	Write	model *	-	-	-
		-	• g:RequestTag/<tag-key> • g:TagKeys		

URI

POST /v1/{project_id}/models

Table 6-20 Path Parameters

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 6-21 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 6-22 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	**ModelTemplate** 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 *Digit.Digit.Digit*. 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
source_copy	No	String	Whether to enable image replication. This parameter is valid only when **model_type** is set to **Image**. Options: • **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	Character string converted from the model configuration file. You are advised to use the initial_config configuration file to provide information about the apis, dependencies, input_params, output_params, health, readiness_health, and startup_health fields. ** Non-template parameter**
execution_code	No	String	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**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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_params	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 for ModelArts Inference**.
model_metrics	No	String	Model precision. If the value is read from the configuration file, this parameter can be left blank. **Non-template parameter**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.
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**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
model_name	Yes	String	Model name, which consists of 1 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. **Common parameter**
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**
cmd	No	String	Image startup command.
deployment_constraints	No	**deployment_constraints** object	Model deployment constraints (tag:hc,hk)

Table 6-23 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 6-24 ModelTemplate

Parameter	Mandatory	Type	Description
infer_format	No	String	Input and output mode ID. When this parameter is provided, the built-in input and output modes in the template are overwritten.
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 6-25 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 6-26 ModelDependencies

Parameter	Mandatory	Type	Description
installer	Yes	String	Installation mode. Only pip is supported.
packages	Yes	Array of **Packages** objects	Collection of dependency packages

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 6-27 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.
restraint	No	String	Version restriction. This parameter is mandatory only when package_version exists. The options are as follows: • EXACT: The version is the same as the specified version. • ATLEAST: The version is not earlier than the specified version. • ATMOST: not later than the specified version.

Table 6-28 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 6-29 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 6-30 CreateModelRequestInferParams

Parameter	Mandatory	Type	Description
protocol	Yes	String	Request protocol. The options are HTTP and HTTPS.
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**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 6-31 deployment_constraints

Parameter	Mandatory	Type	Description
request_mode	No	String	Request model of a job when the model is deployed as a service
cpu_type	No	String	CPU type
input_types	No	Array of strings	Input and output type in asynchronous mode and video service scenarios, such as **OBS** and **VIS**. This parameter is used for importing custom images. Non-custom images are described in the **runtime** file.
outputTypes	No	Array of strings	Input and output type in asynchronous mode and video service scenarios, such as **OBS** and **DIS**. This parameter is used for importing custom images. Non-custom images are described in the **runtime** file.
service_config	No	String	Service deployment field, which can be specified during service deployment. This parameter is used for importing custom images. Non-custom images are declared in **runtime**. As the structure is rather complex, use the value in the XML format.
task_config	No	String	Field of job-related configurations, which can be specified during job creation. This parameter is used for importing custom images. Non-custom images are declared in **runtime**. As the structure is rather complex, use the value in the XML format.
model_security	No	**model_security** object	After the model is encrypted using the Edge, the root key, model key, and encrypted model can be obtained.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 6-32 model_security

Parameter	Mandatory	Type	Description
model_key	No	String	Obtain the model key after using the Edge to encrypt the model.
rootKey	No	String	Obtain the root key after using the Edge to encrypt the model.
security_policy	No	String	Obtain the model encryption policy after using the Edge to encrypt the model.
is_verify_app	No	Boolean	Whether to verify the files in the edge scenario, including the configuration files, container images, and library files.

Response Parameters

Status code: 200

Table 6-33 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.xxxxx.com/mnist",
  "source_job_id" : "55",
  "source_job_version" : "Vnt1",
  "model_type" : "TensorFlow",
  "runtime" : "python2.7",
  "description" : "mnist model",
  "execution_code" : "https://testmodel.obs.xxxxx.com/customize_service.py",
  "input_params" : [ {
    "url" : "/v1/xxx/image",
    "protocol" : "http",
    "method" : "post",
    "param_name" : "image_url",
    "param_type" : "string",
    "min" : 0,
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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"
        }
      }
    }
  } ],
  "initial_config" : "{\"protocol\":\"http\",\"port\":\"8080\",\"health\":{\"check_method\":\"HTTP\",\"protocol
\":\"http\",\"url\":\"/health\",\"period_seconds\":\"5\",\"failure_threshold\":\"10\",\"initial_delay_seconds
\":\"12\"},\"readiness_health\":{\"check_method\":\"HTTP\",\"protocol\":\"http\",\"url\":\"/readiness_health
\",\"period_seconds\":\"5\",\"failure_threshold\":\"20\",\"initial_delay_seconds\":\"12\"},\"startup_health\":
{\"check_method\":\"HTTP\",\"protocol\":\"http\",\"url\":\"/startup_health\",\"period_seconds
\":\"5\",\"failure_threshold\":\"10\",\"initial_delay_seconds\":\"12\"}}"
}
```

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:model:get	Read	model *	g:ResourceTag/<tag-key>	-	-

URI

GET /v1/{project_id}/models/{model_id}

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 6-34 Path Parameters

Parameter	Mandatory	Type	Description
model_id	Yes	String	Model ID, which can be obtained from the response body when an AI application is created. You can also obtain the AI applications owned by the current user by calling the API for querying the AI application list. The model_id field indicates the model ID.
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID and Name**.

Request Parameters

Table 6-35 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 6-36 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
source_copy	String	Whether to enable image replication. This parameter is valid only when **model_type** is set to **Image**. • **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
workspace_id	String	Workspace ID For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.
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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
image_address	String	Image path generated after model packaging
output_params	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
apis	String	All input and output apis parameter information of a model, which is obtained from the model preview
model_source	String	Model source. Options: • auto: ExeML • algos: preset algorithm • custom: customized
tunable	Boolean	Whether a model can be tuned. Options: • true: Supported. • false: Not supported.
market_flag	Boolean	Whether a model is subscribed from the marketplace. Options: • true: from the market • false: no

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
publishable_flag	Boolean	Whether a model can be published to the marketplace. Options: • 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. Probe configurations include health, readiness_health, and startup_health.
specification	**ModelSpecification** object	Minimum specifications for model deployment
input_params	Array of **ModelParamsInfo** 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.
cmd	String	Image startup command.

Table 6-37 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 6-38 ModelHealth

Parameter	Type	Description
protocol	String	Request protocol of the health check API. Only HTTP is supported.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
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.
period_seconds	String	Health check period.
failure_threshold	String	Maximum number of health check failures.
check_method	String	Health check method, which can be **HTTP** or **EXEC** (commands).
command	String	Commands, which are strings separated by spaces.

Table 6-39 ModelDependencies

Parameter	Type	Description
installer	String	Installation mode. Only pip is supported.
packages	Array of **Packages** objects	Collection of dependency packages

Table 6-40 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
restraint	String	Version restriction. This parameter is mandatory only when package_version exists. The options are as follows: • EXACT: The version is the same as the specified version. • ATLEAST: The version is not earlier than the specified version. • ATMOST: not later than the specified version.

Table 6-41 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 6-42 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}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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" : "d04c10db1f264cfeb1966deff1a3527c",
  "owner" : "6d28e85aa78b4e1a9b4bd83501bcd4a1",
  "source_location" : "https://models.obs.xxxxx.com/mnist",
  "model_type" : "TensorFlow",
  "model_size" : 5633481,
  "model_status" : "published",
  "execution_code" : "https://testmodel.obs.xxxxx.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
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

\":\"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\"}]}],\"health\":{\"check_method\":\"HTTP\",\"protocol\":\"http\",\"url\":\"/
health\",\"period_seconds\":\"5\",\"failure_threshold\":\"10\",\"initial_delay_seconds
\":\"12\"},\"readiness_health\":{\"check_method\":\"HTTP\",\"protocol\":\"http\",\"url\":\"/readiness_health
\",\"period_seconds\":\"5\",\"failure_threshold\":\"20\",\"initial_delay_seconds\":\"12\"},\"startup_health\":
{\"check_method\":\"HTTP\",\"protocol\":\"http\",\"url\":\"/startup_health\",\"period_seconds
\":\"5\",\"failure_threshold\":\"10\",\"initial_delay_seconds\":\"12\"}}"
}

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:model:delete	Write	model *	g:ResourceTag/<tag-key>	-	-

URI

DELETE /v1/{project_id}/models/{model_id}

Table 6-43 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 6-44 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 6-45 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 6-46 Response body parameters

Parameter	Type	Description
delete_success_list	Array of strings	ID list of models successfully deleted
delete_failed_list	Array of **DeleteModelResponseFailedList** objects	ID of the model that fails to be deleted and the failure cause list

Table 6-47 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" ],
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
 "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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.
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 For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.
iphertext_enabled	No	Boolean	Whether to display the AppSecret in plaintext.
app_ids	No	Array of strings	App IDs to be displayed in plaintext.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
app_type	String	App type. Enums: • **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	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 7-7 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-8 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

```
GET https://{endpoint}/v1/{project_id}/app-auth/apps
```

Example Responses

Status code: 200

OK

```
{
  "apps" : [ {
    "app_id" : "fb1a9eadd87b48abbd74b8ba1755dffd",
    "app_name" : "app_13e0",
    "app_remark" : "ds",
    "app_key" : "b11ae87581b04b5284aa92b0d4ae332c",
    "app_secret" : "cb5d1b57368b4f129b635332a03bf0e3",
    "user_id" : "04f258c8fb00d42a1f65c00df88cc4dc",
    "project_id" : "04f258c84780d5a52f3bc00dc15aa5e7",
    "app_type" : "APIG",
    "app_codes" : [ "53a7c6de82be4671b93414adf98c1c507d5cef29fbdd48d88a4dddb668b0f0ad",
"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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.

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
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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
app_type	String	App type. Enums: • **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	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 7-15 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-16 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

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 For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
app_type	String	App type. Enums: • **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	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 7-23 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-24 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-26 Query Parameters

Parameter	Mandatory	Type	Description
workspace_id	No	String	Workspace ID For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.

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: 200

OK

Status code: 401

Table 7-28 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-29 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
workspace_id	No	String	Workspace ID For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.

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
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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
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	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 7-36 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 7-37 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
error_msg	String	**Definition**: Error message. **Range**: N/A

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
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: • **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 7-43 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-44 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 7-45 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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
  }
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 7-47 Query Parameters

Parameter	Mandatory	Type	Description
workspace_id	No	String	Workspace ID For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status code: 403

Table 7-52 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
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: • **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 7-58 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-59 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 7-60 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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
  }
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
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.
auth_type	String	API authentication mode. The options are: Enums: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status code: 401

Table 7-66 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 7-67 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 7-68 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.

Table 7-72 Apps

Parameter	Mandatory	Type	Description
app_id	No	String	App ID, which can be obtained by querying apps

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 7-79 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-80 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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"
  } ],
  "workspace_id" : "0"
}
```

Example Responses

Status code: 200

OK

```
{
  "api" : {
    "api_id" : "b9c78dbb50d04230aab90e35e141fccf",
    "api_name" : "infer_456963f1737c4de08bee5b4f6f3a8fa3",
    "api_method" : "ANY",
    "predict_url" : "https://d566c7efafe04a26a83d3a8475602ee3.apig.xxxxxx.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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

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.

Table 7-86 Query Parameters

Parameter	Mandatory	Type	Description
workspace_id	No	String	**Definition**: Workspace ID. . **Constraints**: There must be a workspace in use. **Range**: N/A **Default Value**: **0**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 7-87 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 204

Table 7-88 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Status code: 401

Table 7-89 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-90 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 7-91 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-92 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 500

Table 7-93 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-94 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/services/{service_id}/app-auth-apis/{api_id}/app-auth-api

Table 7-95 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 7-96 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token

Table 7-97 Request body parameters

Parameter	Mandatory	Type	Description
apps	Yes	Array of **Apps** objects	App list
workspace_id	No	String	Workspace ID For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.

Table 7-98 Apps

Parameter	Mandatory	Type	Description
app_id	No	String	App ID, which can be obtained by querying apps

Response Parameters

Status code: 200

Table 7-99 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-100 Response body parameters

Parameter	Type	Description
auth_result	Array of **AppAuthResultInfo** objects	Authorization result list.

Table 7-101 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 7-102 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-103 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-104 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-105 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 7-106 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-107 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 500

Table 7-108 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-109 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

PUT /v1/{project_id}/services/{service_id}/app-auth-apis/{api_id}/app-auth-api

Table 7-110 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 7-111 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-112 Request body parameters

Parameter	Mandatory	Type	Description
apps	Yes	Array of **Apps** objects	App list
workspace_id	No	String	Workspace ID For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.

Table 7-113 Apps

Parameter	Mandatory	Type	Description
app_id	No	String	App ID, which can be obtained by querying apps

Response Parameters

Status code: 200

Table 7-114 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-115 Response body parameters

Parameter	Type	Description
auth_result	Array of **AppAuthResultInfo** objects	Authorization result list.

Table 7-116 AppAuthResultInfo

Parameter	Type	Description
api_id	String	API ID

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
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 7-117 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-118 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 7-119 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-120 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 7-121 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-122 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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" : "fb1a9eadd87b48abbd74b8ba1755dffd"
  } ]
}
```

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
  }, {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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. Same as the URL: /v1/{project_id}/app-auth/{service_id}/apis/{api_id}/auths

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

DELETE /v1/{project_id}/services/{service_id}/app-auth-apis/{api_id}/app-auth-api

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-123 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

Table 7-124 Query Parameters

Parameter	Mandatory	Type	Description
workspace_id	No	String	Workspace ID For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.

Request Parameters

Table 7-125 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 7-126 Request body parameters

Parameter	Mandatory	Type	Description
apps	Yes	Array of **Apps** objects	App list
workspace_id	No	String	Workspace ID For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-127 Apps

Parameter	Mandatory	Type	Description
app_id	No	String	App ID, which can be obtained by querying apps

Response Parameters

Status code: 200

Table 7-128 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-129 Response body parameters

Parameter	Type	Description
unauth_result	Array of **AppAuthResultInfo** objects	Authorization cancellation result

Table 7-130 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-131 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-132 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 7-133 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID

Table 7-134 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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" : "fb1a9eadd87b48abbd74b8ba1755dffd"
  } ]
}
```

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/services/{service_id}/app-auth-apis/{api_id}/api-auths

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-135 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 7-136 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.
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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
sort_by	No	String	Sorting field of the returned App list. Enums: • **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 For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.
iphertext_enabled	No	Boolean	Whether to display the AppSecret in plaintext.
app_ids	No	Array of strings	App IDs to be displayed in plaintext.

Request Parameters

None

Response Parameters

Status code: 200

Table 7-137 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-138 ApiAuthInfo

Parameter	Type	Description
app	**ApigAppDetailInfo** object	App information
authed	Boolean	Whether the API has been authorized to the app

Table 7-139 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: • **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: 400

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-140 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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" : "fb1a9eadd87b48abbd74b8ba1755dffd",
      "app_name" : "app_13e0",
      "app_remark" : "ds",
      "app_key" : "b11ae87581b04b5284aa92b0d4ae332c",
      "app_secret" : "cb5d1b57368b4f129b635332a03bf0e3",
      "user_id" : "04f258c8fb00d42a1f65c00df88cc4dc",
      "project_id" : "04f258c84780d5a52f3bc00dc15aa5e7",
      "app_type" : "APIG",
      "app_codes" : [ "53a7c6de82be4671b93414adf98c1c507d5cef29fbdd48d88a4dddb668b0f0ad" ],
      "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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

7.16 Creates an API.

Function

An API is created, but the API is not authorized to the app.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/app-auth/{service_id}/apis

Table 7-141 Path Parameters

Parameter	Mandatory	Type	Description
service_id	Yes	String	ID of the service to which the API belongs
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 7-142 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: User token. It can be obtained by calling the IAM API. The token is the value of **X-Subject-Token** in the response header. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 7-143 Request body parameters

Parameter	Mandatory	Type	Description
workspace_id	No	String	Workspace ID
support_app_code	No	Boolean	Whether to support the App code
auth_type	No	String	API authentication mode. Options: • NONE • APP • IAM
api_name	No	String	API name
api_url	No	String	URL of the API. with a maximum of 255 characters.
api_path	No	String	Path of the API. with a maximum of 255 characters.
api_method	No	String	Request method, which can be **GET**, **POST**, **PUT**, **DELETE**, **HEAD**, **PATCH**, **OPTIONS**, or **ANY**. **ANY** is the default value.
api_remark	No	String	API description, with a maximum of 255 characters.

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-144 Response body parameters

Parameter	Type	Description
api	**AuthTypeApiBasicInfo** object	API authentication details.

Table 7-145 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: • **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 7-146 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-147 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 7-148 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

```
POST https://{endpoint}/v1/{project_id}/app-auth/{service_id}/apis

{
  "workspace_id" : "0",
  "support_app_code" : true,
  "auth_type" : "APIG",
  "api_name" : "app_test",
  "api_url" : "https://d566c7efafe04a26a83d3a8475602ee3.apig.xxxxxx.com/v1/infers/
456963f1-737c-4de0-8bee-5b4f6f3a8fa3",
  "api_path" : "/v1/infers/456963f1-737c-4de0-8bee-5b4f6f3a8fa3",
  "api_method" : "GET",
  "api_remark" : "test"
}
```

Example Responses

Status code: 200

OK

```
{
  "api" : {
    "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",
    "auth_type" : "APP",
    "api_remark" : "test"
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  }
}
```

Status Codes

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

Error Codes

See **Error Codes**.

7.17 API query

Function

This API is used to query details about a specified API.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/app-auth/{service_id}/apis/{api_id}

Table 7-149 Path Parameters

Parameter	Mandatory	Type	Description
service_id	Yes	String	Service ID, which can be obtained by querying services

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
api_id	Yes	String	App ID
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Table 7-150 Query Parameters

Parameter	Mandatory	Type	Description
workspace_id	No	String	**Definition**: Workspace ID. . **Constraints**: There must be a workspace in use. **Range**: N/A **Default Value**: **0**

Request Parameters

Table 7-151 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: User token. It can be obtained by calling the IAM API. The token is the value of **X-Subject-Token** in the response header. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-152 Response body parameters

Parameter	Type	Description
api	**AuthTypeApiBasicInfo** object	API authentication details.

Table 7-153 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: • **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 7-154 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-155 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 7-156 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

```
GET https://{endpoint}//v1/{project_id}/app-auth/{service_id}/apis/{api_id}
```

Example Responses

Status code: 200

OK

```
{
  "api" : {
    "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",
    "auth_type" : "APP",
    "api_remark" : "test"
  }
}
```

Status Codes

Status Code	Description
200	OK

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See **Error Codes**.

7.18 Querying APIs and Apps

Function

This API is used to query information about APIs and apps authorized by a service.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/services/{service_id}/api-auths

Table 7-157 Path Parameters

Parameter	Mandatory	Type	Description
service_id	Yes	String	Service ID

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Table 7-158 Query Parameters

Parameter	Mandatory	Type	Description
workspace_id	No	String	**Definition**: Workspace ID. . **Constraints**: There must be a workspace in use. **Range**: N/A **Default Value**: **0**

Request Parameters

Table 7-159 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: User token. It can be obtained by calling the IAM API. The token is the value of **X-Subject-Token** in the response header. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 7-160 Response body parameters

Parameter	Type	Description
enable_app_auth	Boolean	Indicates whether the app has been authorized.
app_auth_api	**AppAuthApiAuthInfo** object	Basic information about the app to which the API has been authorized

Table 7-161 AppAuthApiAuthInfo

Parameter	Type	Description
api_id	String	API ID
authed_apps	Array of **ApigAppDetailInfo** objects	Basic information about the app to which the API has been authorized

Table 7-162 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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 7-163 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 7-164 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 7-165 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/services/{service_id}/api-auths
```

Example Responses

Status code: 200

OK


```
{
  "enable_app_auth" : true,
  "app_auth_api" : {
    "api_id" : "string",
    "authed_apps" : [ {
      "app_codes" : [ "1f5f6cb703864cc580d1ba2cdfd77a271a74eee8e5a242e8b5adc009f77a8b2a" ],
      "app_id" : "54d9104db9e7418f9138980da63a857f",
      "app_key" : "151f1f4dfb20445b97326bde3db0c515",
      "app_name" : "app_for_9332aab245ea4d56871e75d6966aa274",
      "app_remark" : "app for user op_svc_modelarts_container0",
      "app_secret" : "0080fa74e6214d0c8d1b2cb01d9d7708",
      "app_type" : "APIG",
      "bounded_api_count" : 0,
      "created_at" : 1574946998167,
      "project_id" : "string",
      "updated_at" : 1574946998167,
      "user_id" : "9332aab245ea4d56871e75d6966aa274"
    } ]
  }
}
```


Status Codes

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

Error Codes

See **Error Codes**.

7.19 Check whether the app exists.

Function

Check whether the app exists.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/app-auth/apps/{app_name}/exists

Table 7-166 Path Parameters

Parameter	Mandatory	Type	Description
app_name	Yes	String	App name.
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Table 7-167 Query Parameters

Parameter	Mandatory	Type	Description
workspace_id	No	String	**Definition**: Workspace ID. . **Constraints**: There must be a workspace in use. **Range**: N/A **Default Value**: **0**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 7-168 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: User token. It can be obtained by calling the IAM API. The token is the value of **X-Subject-Token** in the response header. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

Table 7-169 Response body parameters

Parameter	Type	Description
exists	Boolean	Indicates whether an app exists.

Status code: 401

Table 7-170 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 7-171 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 7-172 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

```
GET https://{endpoint}/v1/{project_id}/app-auth/apps/{app_name}/exists&workspace_id=0
```

Example Responses

Status code: 200

OK

```
{
  "exists" : true
}
```

Status Codes

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

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 of the service PATCH operation

Table 8-4 PatchServiceV2RequestBody

Parameter	Mandatory	Type	Description
op	No	String	Operation type. Currently, only replace is supported, indicating the value replacement operation.
path	No	String	Operation path, which complies with the standard JSON PATCH format. It indicates the target path (JSON PATH) of the value to be replaced based on the JSON response body of the service details. Currently, only model-related parameters can be replaced and updated. Therefore, the prefix is fixed to /config/. For example, if you want to update the number of instances in the first model, the path is /config/0/instance_count.
value	No	String	Target value for replacement.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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	• **Definition**: ModelArts error code. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
error_msg	String	**Definition**: Error message. **Range**: N/A

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:service:getMonitor	Read	service *	g:ResourceTag/<tag-key>	-	-

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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
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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
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" : "mnist",
    "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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:service:list	List	-	• g:RequestTag/<tag-key> • g:TagKeys	-	-

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-15 Query Parameters

Parameter	Mandatory	Type	Description
service_id	No	String	Service ID. You can obtain the service ID from the response body when creating a service or obtain the services owned by the current user by calling the API for querying the service list. The service_id field indicates the service ID. By default, service IDs are not filtered.
service_name	No	String	Service name, which is specified by the user during creation. By default, the service name is not filtered.
model_id	No	String	Model ID, which can be obtained from the response body when an AI application is created. You can also obtain the AI applications owned by the current user by calling the API for querying the AI application list. The model_id field indicates the model ID. By default, model IDs are not filtered.
workspace_id	No	String	Workspace ID For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.
infer_type	No	String	Inference mode. By default, the inference mode is not filtered. Options: • **real-time** • **batch** • **edge**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
status	No	String	Service status. By default, the service status is not filtered. The options are as follows: • **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.
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**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
sort_by	No	String	Sorting field. Enums: • **publish_at**: service publishing time, which is the default value • **service_name**: service name • **transition_at**: update time
order	No	String	Sorting order. Enums: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
operation_time	Number	Operation time of a request
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. The options are as follows: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.
type	String	Scheduling type. Currently, the value can only be stop, indicating that the task automatically stops after a specified period of time.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:service:create	Write	-	• g:RequestTag/<tag-key> • g:TagKeys	-	-

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 the service belongs. For details about how to obtain the value, see **Querying the Workspace List**. If no workspace is created, the default value is 0. If a workspace is created and used, the actual value prevails.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
cluster_id	No	String	Resource pool ID used for deploying a service. This parameter is optional. For real-time and batch services, the value is the ID of the old-version dedicated resource pool. After this parameter is configured, the network configuration of the cluster is used and the **vpc_id** parameter does not take effect. Ensure that the cluster status is normal when using a dedicated resource pool to deploy a service. If you want to use a dedicated resource pool, configure either **cluster_id** or **pool_name**. The priority of **pool_name** is higher than that of **cluster_id**. If neither of them is configured, a shared resource pool is used. When they are configured together with **cluster_id** or **pool_name** in the **config** field, the setting in **config** is preferentially used. For edge services, the value is the edge resource pool ID. To use an edge resource pool to deploy a service, ensure that the resource pool status is normal. If this parameter is configured together with the **cluster_id** parameter in the **config** field, the setting in **config** is preferentially used.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
pool_name	No	String	Resource pool ID of the elastic cluster in the AI dedicated resource pool used for service deployment. This parameter is optional for real-time and batch services. Ensure that the cluster status is normal when using a dedicated resource pool to deploy services. If this parameter is configured together with **cluster_id** or **pool_name** in **config**, the **config** settings are preferentially used. To use a dedicated resource pool, you need to configure either **cluster_id** or **pool_name**. The priority of **pool_name** is higher than that of **cluster_id**. If neither of them is configured, the shared resource pool is used.
infer_type	Yes	String	Inference type. The value can be **real-time**, **edge**, or **batch**. • **real-time**: real-time service. A model is deployed as a web service • **batch**: batch service. A batch service can perform inference on batch data and automatically stops after data processing is completed. • [**edge**: edge service. A model is deployed as a web service on an edge node through Intelligent EdgeFabric (IEF). that provides a real-time test UI and monitoring capabilities. The service keeps running. You need to create a node on IEF beforehand.] (tag:hc,hk)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
vpc_id	No	String	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.
service_name	Yes	String	Service name, which consists of 1 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.
description	No	String	Service description, which is empty by default. The value can contain a maximum of 100 characters and cannot contain the following special characters: !<>+&"'
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
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
load_balancer_policy	No	String	Backend ELB forwarding policy that can be set only for synchronous real-time services. The value can be **ROUND_ROBIN** (weighted round robin), **LEAST_CONNECTIONS** (weighted least connections), or **SOURCE_IP** (source IP address algorithm).
service_secrets	No	Array of **ServiceSecret** objects	This API is used to specifies the list of keys mounted to the service.
priority	No	Integer	Preemption priority. The value ranges from 1 to 3. The scheduling of high-priority services is guaranteed by setting the preemption priority. When infer_type is set to real-time or batch, the preemption priority can be set.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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. Currently, the value can only be stop, indicating that the task automatically stops after a specified period of time.

Table 8-24 ServiceConfig

Parameter	Mandatory	Type	Description
custom_spec	No	**CustomSpec** object	Customized resource specification configuration. This parameter is returned only when specification is set to custom.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 **/**.
mapping_type	No	String	The batch service type is mandatory. Mapping type of the input data. The value can be file or csv. • 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
cluster_id	No	String	Resource pool ID used for deploying a service. This parameter is optional. For real-time and batch services, the value is the ID of the old-version dedicated resource pool. After this parameter is configured, the network configuration of the cluster is used and the **vpc_id** parameter does not take effect. When using a dedicated resource pool to deploy a service, ensure that the cluster status is normal and this parameter has a lower priority than **pool_name**. When setting this parameter, you also need to set the **cluster_id** or **pool_name** parameter of the service level, and the priority of this parameter is higher than that of the **cluster_id** and **pool_name** parameters of the service level. If both **cluster_id** and **pool_name** are missing in **config**, the **cluster_id** and **pool_name** parameters of the service level are used. If none of them is configured, the shared resource pool is used. For edge services, the value is the edge resource pool ID. When using an edge resource pool to deploy a service, ensure that the resource pool status is normal. When setting this parameter, you also need to set the **cluster_id** parameter of the service level, and the priority of this parameter is higher than that of the **cluster_id** parameter of the service level. If this parameter is not set, the **cluster_id** parameter of the service level is used.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
pool_name	No	String	Resource pool ID of the elastic cluster in the AI dedicated resource pool used for service deployment. When using a dedicated resource pool to deploy a service, ensure that the cluster status is normal and this parameter has a higher priority than **cluster_id**. When setting this parameter, you also need to set **cluster_id** or **pool_name** of the service level, and the priority of this parameter is higher than that of **cluster_id** and **pool_name** of the service level. If neither **cluster_id** nor **pool_name** is configured in **config**, the **cluster_id** and **pool_name** parameters of the service level are used. If none of them is configured, the shared resource pool is used. This parameter is optional for real-time and batch services.
nodes	No	Array of strings	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. This parameter is optional for edge services.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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
affinity	No	**ServiceAffinity** object	Service Affinity Deployment

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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-26 ModelAdditionalProperties

Parameter	Mandatory	Type	Description
log_volume	No	Array of **LogVolume** 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 **PersistentVolumes** objects	Persistent storage mounting.
dew_secret	No	**DewSecret** object	DEW secret.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-27 LogVolume

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 PersistentVolumes

Parameter	Mandatory	Type	Description
name	No	String	Volume name.
mount_path	Yes	String	Mount path of a volume in the container. Example: /tmp. The container path must not be a system directory, such as / and /var/run. Otherwise, an exception occurs. It is a good practice to mount the container to an empty directory. If the directory is not empty, ensure that there are no files affecting container startup in the directory. Otherwise, such files will be replaced, resulting in failures to start the container and create the workload.
storage_type	No	String	Mount type: sfs_turbo.
source_address	No	String	Specifies the mounting source path. The value is the SFS Turbo ID when an EFS file is mounted.

Table 8-29 DewSecret

Parameter	Mandatory	Type	Description
secret_name	No	String	DEW secret name.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-30 ServiceAffinity

Parameter	Mandatory	Type	Description
node_affinity	No	**NodeAffinity** object	Set this parameter when node affinity is used.

Table 8-31 NodeAffinity

Parameter	Mandatory	Type	Description
mode	Yes	String	Node affinity mode. The value required indicates strong affinity. A service instance can be scheduled only to a specified node. If the specified node does not exist, the scheduling fails. preferred indicates weak affinity. A service instance tends to be scheduled to a specified node. If the specified node does not meet the scheduling conditions, the service instance will be scheduled to another node.
pool_infos	No	Array of **AffinityPoolInfo** objects	Configure an affinity policy for a specified cluster and specify the nodes in the cluster.

Table 8-32 AffinityPoolInfo

Parameter	Mandatory	Type	Description
pool_name	Yes	String	Cluster name. The cluster name must be in the outer pool_name.
nodes	Yes	Array of **AffinityNodeInfo** objects	Affinity Node List

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-33 AffinityNodeInfo

Parameter	Mandatory	Type	Description
name	Yes	String	Node name, which corresponds to the private IP address of the node.

Table 8-34 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. • **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 8-35 SmnNotification

Parameter	Mandatory	Type	Description
topic_urn	Yes	String	URN of an SMN topic

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
events	Yes	Array of integers	Event ID. The options are as follows: • **1**: failed • **3**: running • **7**: concerning • **11**: pending

Table 8-36 LogReportPipeline

Parameter	Mandatory	Type	Description
type	Yes	String	Log pipeline type. Currently, only **LTS** is supported.
configuration	No	**LtsConfiguration** object	LTS log configuration.

Table 8-37 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.

Table 8-38 ServiceSecret

Parameter	Mandatory	Type	Description
secretId	Yes	String	Specifies the key ID.
mount_path	Yes	String	Mount path.

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-39 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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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://infers-data.obs.xxxxx.com/xgboosterdata/",
    "dest_path" : "https://infers-data.obs.xxxxx.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://infers-data.obs.xxxxx.com/xgboosterdata/",
    "dest_path" : "https://infers-data.obs.xxxxx.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-cbc884f1e20e",
  "resource_ids" : [ "INF-f878991839647358@1598319442708" ]
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/services/specifications

Table 8-40 Path Parameters

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-41 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: • **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 8-42 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 8-43 Response body parameters

Parameter	Type	Description
total_count	Integer	Total number of deployed service specifications.
count	Integer	Number of specifications in the current list.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
specifications	Array of **Specification** objects	Supported service deployment flavors

Table 8-44 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extend_params	Integer	Billing item
display_en	String	Specifications description in English
display_cn	String	Specification description

Table 8-45 CpuInfo

Parameter	Type	Description
arch	String	Architecture type.
cpu	Number	Number of CPUs

Table 8-46 MemoryInfo

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

Table 8-47 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 8-48 NpuInfo

Parameter	Type	Description
brand	String	Brand.
version	String	Card type.
unit	String	Unit.
memory	Integer	Memory size of the card.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
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
    },
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:service:get	Read	service *	g:ResourceTag/<tag-key>	-	-

URI

GET /v1/{project_id}/services/{service_id}

Table 8-49 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. You can obtain the service ID from the response body when creating a service or obtain the services owned by the current user by calling the API for querying the service list. The service_id field indicates the service ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 8-50 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 8-51 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
publish_at	Number	Latest service release time, in milliseconds calculated from 1970.1.1 0:0:0 UTC.
infer_type	String	Inference mode. Options: • **real-time** • **batch** • **edge**
workspace_id	String	Workspace ID

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
cluster_id	String	ID of the dedicated resource pool used by a real-time or batch service or ID of the edge resource pool used by an edge service. This parameter is returned only when a dedicated resource pool or edge resource pool is configured.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	Service status. The options are as follows: • **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.
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 **QueryServiceConfig** objects	Service configuration (If a service is shared, only **model_id**, **model_name**, and **model_version** are returned.)
access_address	String	Access address of an inference request. This parameter is only valid when **infer_type** is set to **real-time** and the service is deployed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
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
pool_name	String	Resource pool ID of the elastic cluster in the AI dedicated resource pool used by the real-time or batch service. This parameter is returned only when a dedicated resource pool is configured.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
load_balancer_policy	String	Backend ELB forwarding policy that can be set for synchronous real-time services. The value can be **ROUND_ROBIN** (weighted round robin), **LEAST_CONNECTIONS** (weighted least connections), or **SOURCE_IP** (source IP address algorithm).
priority	Integer	Preemption priority. The value ranges from 1 to 3. The scheduling of high-priority services is guaranteed by setting the preemption priority. When infer_type is set to real-time or batch, the preemption priority can be set.

Table 8-52 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	Customized resource specification configuration. This parameter is returned only when specification is set to custom.
envs	Map<String,String>	Environment variable key-value pair required for running a model
specification	String	Resource specifications, for example, modelarts.vm.cpu.2u/ modelarts.vm.gpu.pnt004/ modelarts.vm.ai1.snt3. If this parameter is set to custom, a customized flavor is used, which matches the custom_spec field.
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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
src_path	String	OBS path for storing the input data of a batch task, for example, https://xxx.obs.myhwclouds.com/image/.
req_uri	String	Inference path invoked in a batch task, for example, /.
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 the dedicated resource pool or edge resource pool used by the service instance. This parameter is returned only when a dedicated resource pool or edge resource pool is configured.
nodes	Array of **Nodes** objects	Edge node information. This parameter is returned only when ModelArts edge nodes are configured.
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 Example: https://xxx.obs.myhwclouds.com/res/.
instance_count	Integer	Number of instances deployed for a model

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	Service status. The options are as follows: • **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,**ModelAdditionalProperties**>	Additional model deployment attribute
pool_name	String	Resource pool ID of the elastic cluster in the AI dedicated resource pool used by the service instance. This parameter is returned only when a dedicated resource pool is configured.
affinity	**ServiceAffinity** object	Service Affinity Information
specification_details	**ServiceSpecificationDetails** object	Flavor details.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-53 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 8-54 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-DDThh:mm:ss (UTC)
description	String	Node description.
message	String	Indicates the reason when 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-DDThh:mm:ss (UTC)
node_label	String	Node label
os_type	String	OS type of a node

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
name	String	Name of an edge node
os_name	String	OS name of a node
arch	String	Node architecture
id	String	Edge node ID
instance_status	String	Running status of a model instance on the node. The options are as follows: • running: The task is running. • stopped: The service has been stopped. • notReady: not ready. • failed: The task fails to be executed.
state	String	Host status, which can be **RUNNING**, **FAIL**, or **UNCONNECTED**
deployment_num	Integer	Number of application instances deployed on a node
host_name	String	Host name of a node

Table 8-55 ModelAdditionalProperties

Parameter	Type	Description
log_volume	Array of **LogVolume** 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	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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
max_unavailable	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	Integer	Graceful stop period of a container.
persistent_volumes	Array of **PersistentVolumes** objects	Persistent storage mounting.
dew_secret	**DewSecret** object	DEW secret.

Table 8-56 LogVolume

Parameter	Type	Description
host_path	String	Log path to be mapped on the host
mount_path	String	Path to the logs in the container

Table 8-57 PersistentVolumes

Parameter	Type	Description
name	String	Volume name.
mount_path	String	Mount path of a volume in the container. Example: /tmp. The container path must not be a system directory, such as / and /var/run. Otherwise, an exception occurs. It is a good practice to mount the container to an empty directory. If the directory is not empty, ensure that there are no files affecting container startup in the directory. Otherwise, such files will be replaced, resulting in failures to start the container and create the workload.
storage_type	String	Mount type: sfs_turbo.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
source_address	String	Specifies the mounting source path. The value is the SFS Turbo ID when an EFS file is mounted.

Table 8-58 DewSecret

Parameter	Type	Description
secret_name	String	DEW secret name.

Table 8-59 ServiceAffinity

Parameter	Type	Description
node_affinity	**NodeAffinity** object	Set this parameter when node affinity is used.

Table 8-60 NodeAffinity

Parameter	Type	Description
mode	String	Node affinity mode. The value required indicates strong affinity. A service instance can be scheduled only to a specified node. If the specified node does not exist, the scheduling fails. preferred indicates weak affinity. A service instance tends to be scheduled to a specified node. If the specified node does not meet the scheduling conditions, the service instance will be scheduled to another node.
pool_infos	Array of **AffinityPoolInfo** objects	Configure an affinity policy for a specified cluster and specify the nodes in the cluster.

Table 8-61 AffinityPoolInfo

Parameter	Type	Description
pool_name	String	Cluster name. The cluster name must be in the outer pool_name.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
nodes	Array of **AffinityNodeInfo** objects	Affinity Node List

Table 8-62 AffinityNodeInfo

Parameter	Type	Description
name	String	Node name, which corresponds to the private IP address of the node.

Table 8-63 ServiceSpecificationDetails

Parameter	Type	Description
display_en	String	Flavor name.
display_cn	String	Flavor name, in Chinese.
category	String	Flavor type, which can be **CPU** (no accelerator cards), **GPU** (GPU accelerator cards), or **NPU** (NPU accelerator cards).
cpu_info	**CpuDisplayInfo** object	CPU details.
memory_info	**MemoryDisplayInfo** object	Memory details.
gpu_info	**GpuDisplayInfo** object	GPU details.
npu_info	**NpuDisplayInfo** object	NPU details.

Table 8-64 CpuDisplayInfo

Parameter	Type	Description
cpu	Double	Number of CPU cores.
arch	String	CPU architecture, which can be x86 or Arm.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-65 MemoryDisplayInfo

Parameter	Type	Description
memory	Integer	Memory capacity.
unit	String	Memory unit, for example, MB or GB.

Table 8-66 GpuDisplayInfo

Parameter	Type	Description
gpu	Double	Number of GPUs.
brand	String	GPU vendor.
version	String	GPU model.
memory	Integer	GPU memory capacity.
unit	String	GPU memory unit, for example, MB or GB.

Table 8-67 NpuDisplayInfo

Parameter	Type	Description
npu	Integer	Number of NPUs.
brand	String	NPU vendor.
version	String	NPU model.
memory	Integer	NPU memory.
unit	String	NPU memory unit, for example, MB or GB.

Table 8-68 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	Scheduling type. Currently, the value can only be stop, indicating that the task automatically stops after a specified period of time.

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" : "xxxxx",
  "project" : "xxxxx",
  "owner" : "xxxxx",
  "publish_at" : 1585809231902,
  "update_time" : 1585809358259,
  "infer_type" : "real-time",
  "status" : "running",
  "progress" : 100,
  "access_address" : "https://xxxxx.apigw.xxxxx.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
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:service:update	Write	service *	g:ResourceTag/<tag-key>	-	-

URI

PUT /v1/{project_id}/services/{service_id}

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-69 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

Request Parameters

Table 8-70 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 8-71 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: <>=&'". 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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
load_balancer_policy	No	String	Backend ELB forwarding policy that can be set only for synchronous real-time services. The value can be **ROUND_ROBIN** (weighted round robin), **LEAST_CONNECTIONS** (weighted least connections), or **SOURCE_IP** (source IP address algorithm).
service_secrets	No	Array of **ServiceSecret** objects	Specifies the list of keys mounted to the service. If this parameter is not set, the key will not be updated.
priority	No	Integer	Preemption priority. The value ranges from 1 to 3. The scheduling of high-priority services is guaranteed by setting the preemption priority. When infer_type is set to real-time or batch, the preemption priority can be set.

Table 8-72 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
time_unit	Yes	String	Scheduling time unit. Possible values are **DAYS**, **HOURS**, and **MINUTES**.
type	Yes	String	Scheduling type. Currently, the value can only be stop, indicating that the task automatically stops after a specified period of time.

Table 8-73 ServiceConfig

Parameter	Mandatory	Type	Description
custom_spec	No	**CustomSpec** object	Customized resource specification configuration. This parameter is returned only when specification is set to custom.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 **/**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
mapping_type	No	String	The batch service type is mandatory. Mapping type of the input data. The value can be file or csv. • 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
cluster_id	No	String	Resource pool ID used for deploying a service. This parameter is optional. For real-time and batch services, the value is the ID of the old-version dedicated resource pool. After this parameter is configured, the network configuration of the cluster is used and the **vpc_id** parameter does not take effect. When using a dedicated resource pool to deploy a service, ensure that the cluster status is normal and this parameter has a lower priority than **pool_name**. When setting this parameter, you also need to set the **cluster_id** or **pool_name** parameter of the service level, and the priority of this parameter is higher than that of the **cluster_id** and **pool_name** parameters of the service level. If both **cluster_id** and **pool_name** are missing in **config**, the **cluster_id** and **pool_name** parameters of the service level are used. If none of them is configured, the shared resource pool is used. For edge services, the value is the edge resource pool ID. When using an edge resource pool to deploy a service, ensure that the resource pool status is normal. When setting this parameter, you also need to set the **cluster_id** parameter of the service level, and the priority of this parameter is higher than that of the **cluster_id** parameter of the service level. If this parameter is not set, the **cluster_id** parameter of the service level is used.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
pool_name	No	String	Resource pool ID of the elastic cluster in the AI dedicated resource pool used for service deployment. When using a dedicated resource pool to deploy a service, ensure that the cluster status is normal and this parameter has a higher priority than **cluster_id**. When setting this parameter, you also need to set **cluster_id** or **pool_name** of the service level, and the priority of this parameter is higher than that of **cluster_id** and **pool_name** of the service level. If neither **cluster_id** nor **pool_name** is configured in **config**, the **cluster_id** and **pool_name** parameters of the service level are used. If none of them is configured, the shared resource pool is used. This parameter is optional for real-time and batch services.
nodes	No	Array of strings	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. This parameter is optional for edge services.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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
affinity	No	**ServiceAffinity** object	Service Affinity Deployment

Table 8-74 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-75 ModelAdditionalProperties

Parameter	Mandatory	Type	Description
log_volume	No	Array of **LogVolume** 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 **PersistentVolumes** objects	Persistent storage mounting.
dew_secret	No	**DewSecret** object	DEW secret.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-76 LogVolume

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 8-77 PersistentVolumes

Parameter	Mandatory	Type	Description
name	No	String	Volume name.
mount_path	Yes	String	Mount path of a volume in the container. Example: /tmp. The container path must not be a system directory, such as / and /var/run. Otherwise, an exception occurs. It is a good practice to mount the container to an empty directory. If the directory is not empty, ensure that there are no files affecting container startup in the directory. Otherwise, such files will be replaced, resulting in failures to start the container and create the workload.
storage_type	No	String	Mount type: sfs_turbo.
source_address	No	String	Specifies the mounting source path. The value is the SFS Turbo ID when an EFS file is mounted.

Table 8-78 DewSecret

Parameter	Mandatory	Type	Description
secret_name	No	String	DEW secret name.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-79 ServiceAffinity

Parameter	Mandatory	Type	Description
node_affinity	No	**NodeAffinity** object	Set this parameter when node affinity is used.

Table 8-80 NodeAffinity

Parameter	Mandatory	Type	Description
mode	Yes	String	Node affinity mode. The value required indicates strong affinity. A service instance can be scheduled only to a specified node. If the specified node does not exist, the scheduling fails. preferred indicates weak affinity. A service instance tends to be scheduled to a specified node. If the specified node does not meet the scheduling conditions, the service instance will be scheduled to another node.
pool_infos	No	Array of **AffinityPoolInfo** objects	Configure an affinity policy for a specified cluster and specify the nodes in the cluster.

Table 8-81 AffinityPoolInfo

Parameter	Mandatory	Type	Description
pool_name	Yes	String	Cluster name. The cluster name must be in the outer pool_name.
nodes	Yes	Array of **AffinityNodeInfo** objects	Affinity Node List

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-82 AffinityNodeInfo

Parameter	Mandatory	Type	Description
name	Yes	String	Node name, which corresponds to the private IP address of the node.

Table 8-83 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. • **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 8-84 SmnNotification

Parameter	Mandatory	Type	Description
topic_urn	Yes	String	URN of an SMN topic

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
events	Yes	Array of integers	Event ID. The options are as follows: • **1**: failed • **3**: running • **7**: concerning • **11**: pending

Table 8-85 LogReportPipeline

Parameter	Mandatory	Type	Description
type	Yes	String	Log pipeline type. Currently, only **LTS** is supported.
configuration	No	**LtsConfiguration** object	LTS log configuration.

Table 8-86 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.

Table 8-87 ServiceSecret

Parameter	Mandatory	Type	Description
secretId	Yes	String	Specifies the key ID.
mount_path	Yes	String	Mount path.

Response Parameters

Status code: 200

The service is updated.

None

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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" : "xxxx",
    "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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:service:delete	Write	service *	g:ResourceTag/<tag-key>	-	-

URI

DELETE /v1/{project_id}/services/{service_id}

Table 8-88 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 8-89 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

The service is deleted.

None

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

PUT /v1/{project_id}/services/{service_id}/property

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-90 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 8-91 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 8-92 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 8-93 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 8-94 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Tracing ID.

Table 8-95 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 8-96 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Tracing ID.

Table 8-97 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
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
  "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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:service:getEvents	Read	service *	g:ResourceTag/<tag-key>	-	-

URI

GET /v1/{project_id}/services/{service_id}/events

Table 8-98 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 8-99 Query Parameters

Parameter	Mandatory	Type	Description
event_type	No	String	Event type. Enums: • **normal**: normal events • **abnormal**: abnormal events
event_info	No	String	Event information. Only English information can be filtered. The following special characters are not supported: `(){}';,[]<>/?
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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. Default value: **1000**
sort_by	No	String	Specifies the sorting field. The default value is occur_time (event generation time).
order	No	String	Sorting order. Enums: • **asc**: ascending order • **desc**: descending order (default value)

Request Parameters

Table 8-100 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 8-101 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
events	Array of **Events** objects	Event logs of a service

Table 8-102 Events

Parameter	Type	Description
event_type	String	Event type. Options: • **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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:service:getLogs	Read	service *	g:ResourceTag/<tag-key>	-	-

URI

GET /v1/{project_id}/services/{service_id}/logs

Table 8-103 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 8-104 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 8-105 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 8-106 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 8-107 Log

Parameter	Type	Description
update_time	Number	Update time, in milliseconds calculated from 1970.1.1 0:0:0 UTC.
result	String	Update result. Options: • **SUCCESS** • **FAIL** • **RUNNING**
config	Array of **ServiceLogConfig** 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-108 ServiceLogConfig

Parameter	Type	Description
model_id	String	Common parameters Model ID You can obtain the value by calling the API for querying the AI application list.
model_name	String	Model name
model_version	String	Model version
weight	Integer	This parameter is mandatory for the real-time type. Traffic weight allocated to the model. This parameter is mandatory only when infer_type is set to real-time. The sum of multiple weights must be 100. When multiple model versions are configured in a real-time service and different traffic weight ratios are set, ModelArts forwards prediction requests to the corresponding model version instance based on the weight ratio when the prediction API of the service is continuously accessed.
specification	String	Resource specifications. This parameter is returned when infer_type is set to real-time or edge.
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 deployed in a model. This parameter is returned when infer_type is set to real-time.
additional_properties	Map<String,**ModelAdditionalProperties**>	Additional properties for model deployment, facilitating service instance management.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-109 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 8-110 ModelAdditionalProperties

Parameter	Type	Description
log_volume	Array of **LogVolume** 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	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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
max_unavailable	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	Integer	Graceful stop period of a container.
persistent_volumes	Array of **PersistentVolumes** objects	Persistent storage mounting.
dew_secret	**DewSecret** object	DEW secret.

Table 8-111 LogVolume

Parameter	Type	Description
host_path	String	Log path to be mapped on the host
mount_path	String	Path to the logs in the container

Table 8-112 PersistentVolumes

Parameter	Type	Description
name	String	Volume name.
mount_path	String	Mount path of a volume in the container. Example: /tmp. The container path must not be a system directory, such as / and /var/run. Otherwise, an exception occurs. It is a good practice to mount the container to an empty directory. If the directory is not empty, ensure that there are no files affecting container startup in the directory. Otherwise, such files will be replaced, resulting in failures to start the container and create the workload.
storage_type	String	Mount type: sfs_turbo.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
source_address	String	Specifies the mounting source path. The value is the SFS Turbo ID when an EFS file is mounted.

Table 8-113 DewSecret

Parameter	Type	Description
secret_name	String	DEW secret name.

Table 8-114 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: • **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" : "mnist",
      "weight" : 100,
      "model_id" : "0e07b41b-173e-42db-8c16-8e1b44cc0d44",
      "instance_count" : 1
    } ]
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
 }]
}
```

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:service:update	Write	service *	g:ResourceTag/<tag-key>	-	-

URI

POST /v1/{project_id}/services/{resource_id}/tags/create

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-115 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
resource_id	Yes	String	Resource ID (service ID)

Request Parameters

Table 8-116 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Definition**: Enter **application/json;charset=utf8**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
X-Auth-Token	Yes	String	**Definition**: User token. It can be obtained by calling the IAM API. The token is the value of **X-Subject-Token** in the response header. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 8-117 Request body parameters

Parameter	Mandatory	Type	Description
tags	Yes	Array of **TmsTag** objects	**Definition**: TMS tags. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-118 TmsTag

Parameter	Mandatory	Type	Description
key	Yes	String	**Definition**: Key of a TMS tag. **Constraints**: The value can contain at most 128 characters and cannot start or end with ***sys***. Only letters, digits, spaces, and special characters (_.:=+-@) are allowed. **Range**: N/A **Default Value**: N/A
value	Yes	String	**Definition**: Value of a TMS tag. **Constraints**: The value can contain at most 255 characters. Only letters, digits, spaces, and special characters (_.:/=+-@) are allowed. **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 204

The tag is added.

Status code: 400

Table 8-119 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-120 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 8-121 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 8-122 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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"
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
 }]
}
```

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:service:update	Write	service *	g:ResourceTag/<tag-key>	-	-

URI

DELETE /v1/{project_id}/services/{resource_id}/tags/delete

Table 8-123 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
resource_id	Yes	String	Resource ID, for example, the ID of a real-time service

Request Parameters

Table 8-124 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Definition**: Enter **application/json;charset=utf8**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: User token. It can be obtained by calling the IAM API. The token is the value of **X-Subject-Token** in the response header. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 8-125 Request body parameters

Parameter	Mandatory	Type	Description
tags	Yes	Array of **TmsTagForDelete** objects	**Definition**: List of tags to be deleted. **Constraints**: N/A

Table 8-126 TmsTagForDelete

Parameter	Mandatory	Type	Description
key	Yes	String	**Definition**: Key of a TMS tag. **Constraints**: N/A **Range**: The value allows up to 128 characters, including letters, digits, spaces, and special characters (_.:=+-@). The value cannot start or end with a space or start with ***sys***. **Default Value**: N/A
value	No	String	**Definition**: Value of a TMS tag. This parameter is optional. **Constraints**: N/A **Range**: The value allows up to 255 characters, including letters, digits, spaces, and special characters (_.:/=+-@). **Default Value**: N/A

Response Parameters

Status code: 204

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

The tag is deleted.

Status code: 400

Table 8-127 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 8-128 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 8-129 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 8-130 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
error_msg	String	**Definition**: Error message. **Range**: N/A

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:service:get	Read	service *	g:ResourceTag/<tag-key>	-	-

URI

GET /v1/{project_id}/services/tms/tags

Table 8-131 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 8-132 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: User token. It can be obtained by calling the IAM API. The token is the value of **X-Subject-Token** in the response header. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
Content-Type	Yes	String	**Definition**: Enter **application/json;charset=utf8**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

Table 8-133 Response body parameters

Parameter	Type	Description
tags	Array of **CombineTmsTags** objects	**Definition**: Data structure of merged tags with the same key.

Table 8-134 CombineTmsTags

Parameter	Type	Description
key	String	**Definition**: Tag key. **Range:** The value allows up to 128 characters, including letters, digits, spaces, and the following special characters: _ . : = + - @. The value cannot start or end with a space or start with ***sys***.
values	Array of strings	**Definition**: Merged tag values with the same key.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status code: 400

Table 8-135 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 8-136 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 8-137 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/internal-channel-info

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 8-138 Path Parameters

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

Request Parameters

Table 8-139 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token

Response Parameters

Status code: 200

Table 8-140 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Tracing ID

Table 8-141 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 **InternalChannel-Detail** objects	VPC access channel information

Table 8-142 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service_port	Integer	Port of the VPC access channel

Status code: 401

Table 8-143 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Tracing ID

Table 8-144 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/b722xxxxxxxxxxxxxxxxxxxxxxeb4674/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."
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	The inference VPC access channel is returned.
401	Authentication failed.

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

9 Resource Management

9.1 Querying OS Configuration Parameters

Function

This API is used to obtain the configuration parameters of ModelArts OS, such as network CIIDR and user resource quota. This API is used when you need to query the network configuration, resource allocation, or system management of ModelArts OS. Before using this API, ensure that you have the permission to access ModelArts OS and the service is running properly. After the query, the configuration parameters are returned for future resource planning and system optimization. If you do not have the required permission, the service is unavailable, or the request parameter is invalid, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/os-user-config

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 9-2 Response body parameters

Parameter	Type	Description
networkCidrs	Array of strings	**Definition**: Network configuration item.
networkQuota	Integer	**Definition**: Quota of the number of networks that can be created. **Range**: N/A
poolQuota	Integer	**Definition**: Quota of the number of resource pools that can be created. **Range**: N/A
poolHighAvailable	Boolean	**Definition**: Whether resource pools with high availability can be created in the current environment or region **Range** • **true**: supported • **false**: not supported

Status code: 404

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-3 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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 API is used to obtain details about a specified plug-in template. This API is used when you need to query the configuration, functions, or usage of a specific plug-in template. Before using this API, ensure that the plug-in template exists and you have the required permission. After the query, the details of the specified plug-in template are returned, including the configuration parameters and function description of the template, helping you develop and manage plug-ins. If the plug-in template does not exist or you do not have the access permission, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/plugintemplates/{plugintemplate_name}

Table 9-4 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
plugintemplate_name	Yes	String	**Definition**: Plug-in template name. **Constraints**: N/A **Range** • **gpu-driver**: GPU driver plug-in template • **npu-driver**: NPU driver plug-in template **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-5 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version. **Range**: • **v1**
kind	String	**Definition**: Resource type. **Range**: • **PluginTemplate**: plugin template
metadata	**PluginTemplateMetadata** object	**Definition**: Metadata of the plugin template.
spec	**PluginTemplateSpec** object	**Definition**: Specifications of the plugin template.

Table 9-6 PluginTemplateMetadata

Parameter	Type	Description
name	String	**Definition**: Name of the plugin template. **Range**: N/A
annotations	Map<String,String>	Plugin template annotations in the format of key-value pairs.

Table 9-7 PluginTemplateSpec

Parameter	Type	Description
type	String	Plugin template type. Options: • **npu-river**: NPU driver • **gpu-driver**: GPU driver
description	String	**Definition**: Description of the plugin template. **Range**: N/A
versions	Map<String,**PluginTemplateVersionV2**>	**Definition**: Description of the plugin template version.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-8 PluginTemplateVersionV2

Parameter	Type	Description
version	String	Version number of the plugin template.
creationTimestamp	String	Creation time.
inputs	Object	Plugin installation parameters.
translate	Object	Translation information used by the GUI.
description	String	Version description.
detail	String	Version description.

Status code: 404

Table 9-9 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

```
GET https://{endpoint}/v1/{project_id}/plugintemplates/{plugintemplate_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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 in a Resource Pool

Function

This API is used to obtain the node list of a specified resource pool. This API is used when you need to obtain the details about a resource pool, such as the node distribution, status, or resource usage. Before using this API, ensure that the resource pool has been created and is available, and you have the required permission. After the query, the system returns the detailed information about the nodes in the resource pool, including the node ID, status, and resource usage, helping you manage and optimize resources. If the resource pool does not exist, you do not have the permission to access the resource pool, or the request parameters are invalid, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:pool:get	Read	pool *	g:ResourceTag/<tag-key>	-	-
		-	g:EnterpriseProjectId		

URI

GET /v2/{project_id}/pools/{pool_name}/nodes

Table 9-10 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Definition**: Resource pool ID. The value is obtained from the **metadata.name** field in the resource pool details. **Constraints*: The value can contain 36 to 63 characters. It must start with a lowercase letter and cannot end with a hyphen (-). Digits and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-11 Query Parameters

Parameter	Mandatory	Type	Description
continue	No	String	**Definition**: Offset parameter of the pagination query **Constraints**: Optional **Range**: The value is obtained from the **metadata.continue** field in the response to the last pagination query. An empty value indicates no offset. **Default Value**: N/A
limit	No	Integer	**Definition**: Number of resources returned in a single pagination query **Constraints**: N/A **Range**: 0 to 500 **Default Value**: **500**

Request Parameters

None

Response Parameters

Status code: 200

Table 9-12 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource. **Range**: • **v2**: The current resource version is v2.
kind	String	**Definition**: Resource type. **Range**: • **NodeList**: nodes
metadata	**NodeListMetadata** object	**Definition**: Metadata of a node list.
items	Array of **Node** objects	**Definition**: Node resource list.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-13 NodeListMetadata

Parameter	Type	Description
continue	String	**Definition**: Offset parameter of the pagination query. **Range**: The value is obtained from the **metadata.continue** field in the response to the last pagination query. An empty value indicates no offset.
remainingItemCount	Long	**Definition**: Number of remaining resources in a pagination query. **Default Value**: N/A

Table 9-14 Node

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource. **Range**: • **v2**: The current resource version is v2.
kind	String	**Definition**: Resource type. **Range**: • **Node**: node
metadata	**NodeMetadata** object	**Definition**: Metadata of a node resource.
spec	**NodeSpec** object	**Definition**: Specifications of a node resource.
status	**NodeStatus** object	**Definition**: Status of a node resource.

Table 9-15 NodeMetadata

Parameter	Type	Description
name	String	**Definition**: Node name. **Range**: N/A
creationTimestamp	String	**Definition**: Creation time. **Range**: N/A
labels	**NodeLabels** object	**Definition**: Node labels.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
annotations	**NodeVOAnnotations** object	**Definition**: Node annotations.

Table 9-16 NodeLabels

Parameter	Type	Description
os.modelarts.node/cluster	String	**Definition**: Name of the cluster where the node is located. **Range**: N/A
os.modelarts.node/elastic.quota	String	**Definition**: Logical pool bound to the node. **Range**: N/A
os.modelarts.node/nodepool	String	**Definition**: ID of the node pool where the node is located. **Range**: N/A
os.modelarts.node/batch.uid	String	**Definition**: Batch creation ID. **Range**: N/A
os.modelarts.node/batch.name	String	**Definition**: Batch creation name. **Range**: N/A
os.modelarts.node/batch.type	String	**Definition**: Batch creation type. **Range** • **hyperinstance**: supernode
os.modelarts.node/batch.count	String	**Definition**: Number of nodes created in batches. **Range**: N/A
os.modelarts/resource.id	String	**Definition**: Node resource ID. **Range**: N/A
os.modelarts/tenant.domain.id	String	**Definition**: Tenant ID of a node, which records the tenant account under which the node is created. **Range**: N/A
os.modelarts/tenant.project.id	String	**Definition**: Project ID of a node, which records the project under which the node is created. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/billing.status	String	**Definition**: Node billing status. **Range** • **0**: normal • **1**: frozen • **2**: deleted or terminated
os.modelarts.node/volcano.scheduler.cabinet-exclusive	String	**Definition**: Whether the node is exclusively occupied by a full-rack job. If yes, tha tag exists and its value is the ID of the exclusive training job. **Range**: N/A
cce.kubectl.kubernetes.io/cabinet	String	**Definition**: IP address of the TOR switch where the node is located. Use hyphens (-) to separate multiple IP addresses of TOR switches. **Range**: N/A
os.modelarts.node/underlying.instance.id	String	**Definition**: Instance ID of the underlying resources of the node, for example, the ECS instance ID of the supernode. **Range**: N/A
os.modelarts.node/ha.redundant.enabled	String	**Definition**: Whether HA redundancy is enabled for the node. **Range** • **true**: enabled • **false**: disabled
os.modelarts.node/nodepoolname	String	**Definition**: Name of the node pool where the node is located. The value can contain 2 to 50 characters and must start with a lowercase letter. It cannot end with a hyphen (-) or **-default**. Only lowercase letters, hyphens (-), and digits are allowed. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-17 NodeVOAnnotations

Parameter	Type	Description
os.modelarts/npu-topology-placement	String	**Definition**: Topology of the NPU resource usage. The value is a 16-bit binary number, where the first bit from the right indicates PU 1. **1** indicates occupied, and **0** indicates idle. For example, if PUs 1 and 15 are occupied in a 16-PU server, the value is **0100000000000001**. If PUs 1 and 7 are occupied in an 8-PU server, the returned value is **0000000001000001**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-18 NodeSpec

Parameter	Type	Description
flavor	String	**Definition**: Node specifications. **Range**: N/A.
os	**Os** object	**Definition**: OS image information.
hostNetwork	**NodeNetwork** object	**Definition**: Node network information.
rootVolume	**VolumeVO** object	**Definition**: System disk information.
dataVolumes	Array of **VolumeVO** objects	**Definition**: Data disk information.
extendParams	**ResourceExtendParams** object	**Definition**: Custom configuration.

Table 9-19 Os

Parameter	Type	Description
name	String	**Definition**: OS name and version, for example, EulorOS 2.5. This parameter can be left blank when a private image is specified. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
imageId	String	**Definition**: OS image ID. **Range**: N/A.
imageType	String	**Definition**: OS image type. This parameter must be specified when a private image is set. By default, the preset image is used. You do not need to specify this field. **Range**: • **private**: private images • "": The preset image is used.
autoMatch	String	**Definition**: Automatic OS image matching configuration. If this parameter is set, the optimal image is automatically selected, and this parameter is automatically cleared. **Range**: OS name and version, for example, EulorOS 2.5.

Table 9-20 NodeNetwork

Parameter	Type	Description
vpc	String	• **Definition**: VPC ID. **Range**: N/A.
subnet	String	**Definition**: Subnet ID. **Range**: N/A.
securityGroups	Array of strings	**Definition**: Security group ID set.

Table 9-21 VolumeVO

Parameter	Type	Description
volumeType	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD
size	String	**Definition**: Disk size, in GiB. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
count	Integer	**Definition**: Number of disks. If this parameter is not specified, the default value **1** is used. **Range**: N/A.

Table 9-22 ResourceExtendParams

Parameter	Type	Description
dockerBaseSize	String	**Definition**: Container image space of a node. **Range**: • **Specified**: The default value of dockerBaseSize ranges from **50** to **500**. However, the actual value is restricted by the container data disk size of the node. • **Unlimited**: *dockerBaseSize="0, indicating that the container image space is not limited.
postInstall	String	**Definition**: Post-installation script. The entered value must be encoded using Base64. **Range**: N/A.
runtime	String	**Definition**: Container runtime. **Range**: • **docker**: Container runtime. It is the most commonly used container engine, which is used to create and manage container instances based on container images. • **containerd**: Industrial-grade container runtime. It focuses on container lifecycle management and is one of the core components at the bottom layer of Docker. It can also be deployed independently.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
labelPolicyOnExistingNodes	String	**Definition**: Kubernetes label update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
taintPolicyOnExistingNodes	String	**Definition**: Kubernetes taint update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
tagPolicyOnExistingNodes	String	**Definition**: Resource tag update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
XParameterPlaneSubnet	String	**Definition**: Subnet ID used for data transmission on the parameter plane between physical clusters. The value cannot be the same as the node subnet or container subnet. **Range**: N/A.
nodePoolName	String	**Definition**: Name of the node pool specified by you. The value is a string of 2 to 50 characters, consisting of lowercase letters, hyphens (-), and digits. It must start with a lowercase letter and cannot end with a hyphen (-) or **-default**. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-23 NodeStatus

Parameter	Type	Description
phase	String	**Definition**: Status of a node. **Range**: • **Available**: The node is available. • **Creating**: The node is being created. • **Deleting**: The node is being deleted. • **Abnormal**: The node is abnormal. • **Checking**: The node is performing a self-check.
az	String	**Definition**: AZ where a node is located. **Range**: N/A
privateIp	String	**Definition**: IP address of a node. **Range**: N/A
resources	**NodeResource** object	**Definition**: Resources of a node.
availableResources	**NodeResource** object	**Definition**: Available resources of a node.

Table 9-24 NodeResource

Parameter	Type	Description
cpu	String	**Definition**: Number of CPU cores on a node. **Range**: N/A
memory	String	**Definition**: Memory size of a node, in GiB. **Range**: N/A
nvidia.com/gpu	String	**Definition**: Number of GPUs on a node. **Range**: N/A
huawei.com/ascend-snt3	String	**Definition**: Number of snt3 NPUs on a node. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
huawei.com/ascend-snt9	String	**Definition**: Number of snt9 NPUs on a node. **Range**: N/A

Status code: 404

Table 9-25 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
      "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-v7hfj",
    "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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
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. This API is used when you need to delete redundant nodes, re-allocate resources, or remove faulty nodes from a resource pool. Before using this API, ensure that the resource pool has been created and is available, you have the required permission, and at least one node is retained in the resource pool. After the deletion, the specified nodes are permanently removed, and the remaining nodes in the resource pool continue to work. If the resource pool does not exist, the node does not exist, you do not have the permission to perform the operation, or the number of nodes in the resource pool is insufficient, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:pool:update	Write	pool *	g:ResourceTag/<tag-key>	-	-
		-	g:EnterpriseProjectId		

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

URI

POST /v2/{project_id}/pools/{pool_name}/nodes/batch-delete

Table 9-26 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Definition**: Resource pool name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

Table 9-27 Request body parameters

Parameter	Mandatory	Type	Description
deleteNodeNames	Yes	Array of strings	**Definition**: List of names of nodes to be deleted. **Constraints**: N/A

Response Parameters

Status code: 200

OK.

Status code: 404

Table 9-28 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
error_msg	String	**Definition**: Error message. **Range**: N/A

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-mnmcf" ]
}
```

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

This API is used to obtain the event information recorded in the system. This API is used when you need to query the event records recorded in the system when monitoring the system status, locating faults, or auditing. Before using this API, ensure that you have the required permission and the event records exist in the system. After the query, the API returns the event list, including the event ID, type, time, and description. If you do not have the required permission, the event record does not exist, or the query parameter is incorrect, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:pool:get	Read	pool *	g:ResourceTag/<tag-key>	-	-
		-	g:EnterpriseProjectId		

URI

GET /v1/{project_id}/events

Table 9-29 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-30 Query Parameters

Parameter	Mandatory	Type	Description
resource	Yes	String	**Definition**: Type of the resource where the event is generated. The value can be **pools**, indicating the resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
name	Yes	String	**Definition**: Name of the resource where the event is generated. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
limit	No	Integer	**Definition**: Maximum number of records on each page. If this parameter is left blank or set to **0**, 500 records are returned by default. A maximum of 500 records are allowed on each page. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
continue	No	String	**Definition**: Marker of the previous page in pagination query. The value is a UUID string. This parameter is left blank when the first page is queried. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
since	No	Integer	**Definition**: Timestamp of the event start time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
until	No	Integer	**Definition**: Timestamp of the event end time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
type	No	String	**Definition**: Event type. **Constraints**: N/A **Range** • **Normal** • **Warning** **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 9-31 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version. **Range**: • **v1**
kind	String	**Definition**: Resource type. **Range**: • **EventList**: event list
metadata	**EventListMeta** object	**Definition**: Metadata of the event list.
items	Array of **EventModel** objects	**Definition**: Event list.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-32 EventListMeta

Parameter	Type	Description
continue	String	**Definition**: Pagination marker. **Range**: N/A
remainingItemCount	Integer	**Definition**: Number of remaining records on the current page. **Range**: N/A

Table 9-33 EventModel

Parameter	Type	Description
apiVersion	String	**Definition**: API version. **Range**: • **v1**
kind	String	**Definition**: Resource type. **Range**: • **Event**: event
type	String	**Definition**: Event type. **Range**: • **Normal**: normal event • **Warning**: abnormal event
firstTimestamp	String	**Definition**: Time when an event occurs for the first time. **Range**: N/A
lastTimestamp	String	**Definition**: Time when an event occurs for the last time. **Range**: N/A
count	Integer	**Definition**: Number of consecutive occurrences of an event. **Range**: N/A
reason	String	**Definition**: Cause of an event. **Range**: N/A
message	String	**Definition**: Event details. **Range**: N/A

Status code: 400

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-34 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 9-35 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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-aee4-92fea5813e7f"
  },
  "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."
  }, {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
404	Not Found.

Error Codes

See **Error Codes**.

9.6 Creating Network Resources

Function

This API is used to create network resources in a system. This API is used when you need to create network resources, such as virtual networks, subnets, or routes, when you need to expand services, plan resources, or adjust the network architecture. Before using this API, ensure that you have the administrator permission and the system has sufficient resources to create network resources. After the creation, the network resources will be added to the system for future service configurations. If you do not have the required permission, the resources are insufficient, or the input parameter is incorrect, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:network:create	Write	network *	-	-	-

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
		-	• g:EnterpriseProjectId • g:RequestTag/<tag-key> • g:TagKeys		

URI

POST /v1/{project_id}/networks

Table 9-36 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

Table 9-37 Request body parameters

Parameter	Mandatory	Type	Description
apiVersion	Yes	String	**Definition**: API version. **Constraints**: N/A **Range**: • **v1** **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
kind	Yes	String	**Definition**: Resource type. **Constraints**: N/A **Range**: • **Network** **Default Value**: N/A
metadata	Yes	**NetworkMetadataCreation** object	**Definition**: Metadata of a network resource. **Constraints**: N/A
spec	Yes	**NetworkSpec** object	**Definition**: Description of a network resource. **Constraints**: N/A

Table 9-38 NetworkMetadataCreation

Parameter	Mandatory	Type	Description
labels	Yes	**NetworkMetadataLabels** object	**Definition**: Network resource tags. **Constraints**: N/A

Table 9-39 NetworkMetadataLabels

Parameter	Mandatory	Type	Description
os.modelarts/name	Yes	String	**Definition**: Displayed name of a resource pool. **Range*: The value can contain 4 to 32 characters. It must start with a lowercase letter and cannot end with a hyphen (-). Digits and hyphens (-) are allowed.
os.modelarts/workspace.id	No	String	**Definition**: Workspace ID. [For details about how to obtain the ID, see **Querying the Workspace List**.] (tag:hc) **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-40 NetworkSpec

Parameter	Mandatory	Type	Description
cidr	Yes	String	**Definition**: CIDR value of a network. **Range** • **172.16.0.0/12** to **172.16.0.0/24** • **192.168.0.0/16** to **192.168.0.0/24**
connection	No	**NetworkConnection** object	**Definition**: Connection information between the current network and other resources.

Table 9-41 NetworkConnection

Parameter	Mandatory	Type	Description
peerConnectionList	No	Array of **PeerConnectionItem** objects	**Definition**: Peering connections.

Table 9-42 PeerConnectionItem

Parameter	Mandatory	Type	Description
peerVpcId	Yes	String	**Definition**: VPC ID of the peer end. **Range**: N/A
peerSubnetId	Yes	String	**Definition**: Subnet ID of the peer end. **Range**: N/A
defaultGateWay	No	Boolean	**Definition**: Whether to create a default route. The default value is **false**. **Range**: N/A

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-43 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource. **Range**: • **v1**: The current resource version is v1.
kind	String	**Definition**: Resource type. **Range**: • **Network**
metadata	**NetworkMetadata** object	**Definition**: Metadata of a network resource.
spec	**NetworkSpec** object	**Definition**: Specifications of a network resource.
status	**NetworkStatus** object	**Definition**: Status of a network resource.

Table 9-44 NetworkMetadata

Parameter	Type	Description
name	String	**Definition**: Network resource ID. **Range**: N/A
creationTimestamp	String	**Definition**: Network creation time. For example, **2025-11-01T03:49:41Z**. **Range**: N/A
labels	**NetworkMetadataLabels** object	**Definition**: Network labels.
annotations	**NetworkMetadataAnnotations** object	**Definition**: Network annotations.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-45 NetworkMetadataLabels

Parameter	Type	Description
os.modelarts/name	String	**Definition**: Displayed name of a resource pool. **Range*: The value can contain 4 to 32 characters. It must start with a lowercase letter and cannot end with a hyphen (-). Digits and hyphens (-) are allowed.
os.modelarts/workspace.id	String	**Definition**: Workspace ID. [For details about how to obtain the ID, see **Querying the Workspace List**.] (tag:hc) **Range**: N/A

Table 9-46 NetworkMetadataAnnotations

Parameter	Type	Description
os.modelarts/description	String	**Definition**: Network description. **Range**: The value cannot contain these characters: !<>=&"'.

Table 9-47 NetworkSpec

Parameter	Type	Description
cidr	String	**Definition**: CIDR value of a network. **Range** • **172.16.0.0/12** to **172.16.0.0/24** • **192.168.0.0/16** to **192.168.0.0/24**
connection	**NetworkConnection** object	**Definition**: Connection information between the current network and other resources.

Table 9-48 NetworkConnection

Parameter	Type	Description
peerConnectionList	Array of **PeerConnectionItem** objects	**Definition**: Peering connections.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-49 PeerConnectionItem

Parameter	Type	Description
peerVpcId	String	**Definition**: VPC ID of the peer end. **Range**: N/A
peerSubnetId	String	**Definition**: Subnet ID of the peer end. **Range**: N/A
defaultGateWay	Boolean	**Definition**: Whether to create a default route. The default value is **false**. **Range**: N/A

Table 9-50 NetworkStatus

Parameter	Type	Description
phase	String	**Definition**: Current status of a network resource. **Range**: • **Creating**: The network is being created. • **Active**: The network is functional. • **Abnormal**: The network is abnormal.
connectionStatus	**NetworkConnectionStatus** object	**Definition**: Connection status between the network and other cloud services.

Table 9-51 NetworkConnectionStatus

Parameter	Type	Description
peerConnectionStatus	Array of **PeerConnectionStatus** objects	**Definition**: Status of peering connections.
sfsTurboStatus	Array of **SfsTurboConnectionStatus** objects	**Definition**: Status of SFS Turbo accessible to the network.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-52 PeerConnectionStatus

Parameter	Type	Description
peerVpcId	String	**Definition**: VPC ID of the peer end. **Range**: N/A
peerSubnetId	String	**Definition**: Subnet ID of the peer end. **Range**: N/A
defaultGateWay	Boolean	**Definition**: Specifies whether to create a default route. **Range**: **false** (default value, indicating that no default route is created)
phase	String	**Definition**: Connection status of the network. **Range**: • **Connecting**: The network is being connected. • **Active**: The network is connected properly. • **Abnormal**: The network connection is abnormal.

Table 9-53 SfsTurboConnectionStatus

Parameter	Type	Description
name	String	**Definition**: Name of the SFS Turbo instance. **Range**: N/A
sfsId	String	**Definition**: ID of the SFS Turbo instance. **Range**: N/A
connectionType	String	**Definition**: association mode. **Range**: • **VpcPort**: passthrough through attached NICs • **Peering**: connection through VPC peering
ipAddr	String	**Definition**: Access address of SFS Turbo. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Connection status of SFS Turbo. **Range**: • **Active**: The SFS connection is normal. • **Abnormal**: The SFS connection is abnormal. • **Creating**: The SFS connection is being set up. • **Deleting**: The SFS connection is being deleted.

Status code: 400

Table 9-54 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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}/v1/{project_id}/networks

{
  "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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
  "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 information about created network resources in the system. This API is used when you need to query the network resource list recorded in the system when monitoring network status, planning resources, locating network faults, or auditing. Before using this API, ensure that you have the required permission and the network resources exist in the system. After the query, the API returns the network resource list, including the resource ID, type, status, and creation time. If you do not have the required permission, the network resources do not exist in the system, or the query parameter is incorrect, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:network:list	List	network *	-	-	-
		-	• g:EnterpriseProjectId • g:TagKeys • g:RequestTag/<tag-key>		

URI

GET /v1/{project_id}/networks

Table 9-55 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-56 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	**Definition**: Number of resources returned in a single pagination query **Constraints**: N/A **Range**: 0 to 500 **Default Value**: **500**
continue	No	String	**Definition**: Offset parameter of the pagination query. The value is obtained from the **metadata.continue** field in the response to the last pagination query. An empty value indicates no offset. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
labelSelector	No	String	**Definition**: Tag filtering query **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 9-57 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource. **Range**: • **v1**: The current resource version is v1.
kind	String	**Definition**: Resource type. **Range**: • **NetworkList**: networks

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
metadata	**NetworkListMetadata** object	**Definition**: Metadata of network resources.
items	Array of **Network** objects	**Definition**: Network resource list.

Table 9-58 NetworkListMetadata

Parameter	Type	Description
continue	String	**Definition**: Next query position in pagination query. **Range**: N/A
remainingItemCount	Integer	**Definition**: Number of remaining resources. **Range**: N/A

Table 9-59 Network

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource. **Range**: • **v1**: The current resource version is v1.
kind	String	**Definition**: Resource type. **Range**: • **Network**
metadata	**NetworkMetadata** object	**Definition**: Metadata of a network resource.
spec	**NetworkSpec** object	**Definition**: Specifications of a network resource.
status	**NetworkStatus** object	**Definition**: Status of a network resource.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-60 NetworkMetadata

Parameter	Type	Description
name	String	**Definition**: Network resource ID. **Range**: N/A
creationTimestamp	String	**Definition**: Network creation time. For example, **2025-11-01T03:49:41Z**. **Range**: N/A
labels	**NetworkMetadataLabels** object	**Definition**: Network labels.
annotations	**NetworkMetadataAnnotations** object	**Definition**: Network annotations.

Table 9-61 NetworkMetadataLabels

Parameter	Type	Description
os.modelarts/name	String	**Definition**: Displayed name of a resource pool. **Range*: The value can contain 4 to 32 characters. It must start with a lowercase letter and cannot end with a hyphen (-). Digits and hyphens (-) are allowed.
os.modelarts/workspace.id	String	**Definition**: Workspace ID. [For details about how to obtain the ID, see **Querying the Workspace List**.] (tag:hc) **Range**: N/A

Table 9-62 NetworkMetadataAnnotations

Parameter	Type	Description
os.modelarts/description	String	**Definition**: Network description. **Range**: The value cannot contain these characters: !<>=&'".

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-63 NetworkSpec

Parameter	Type	Description
cidr	String	**Definition**: CIDR value of a network. **Range** • **172.16.0.0/12** to **172.16.0.0/24** • **192.168.0.0/16** to **192.168.0.0/24**
connection	**NetworkConnection** object	**Definition**: Connection information between the current network and other resources.

Table 9-64 NetworkConnection

Parameter	Type	Description
peerConnectionList	Array of **PeerConnectionItem** objects	**Definition**: Peering connections.

Table 9-65 PeerConnectionItem

Parameter	Type	Description
peerVpcId	String	**Definition**: VPC ID of the peer end. **Range**: N/A
peerSubnetId	String	**Definition**: Subnet ID of the peer end. **Range**: N/A
defaultGateWay	Boolean	**Definition**: Whether to create a default route. The default value is **false**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-66 NetworkStatus

Parameter	Type	Description
phase	String	**Definition**: Current status of a network resource. **Range**: • **Creating**: The network is being created. • **Active**: The network is functional. • **Abnormal**: The network is abnormal.
connectionStatus	**NetworkConnectionStatus** object	**Definition**: Connection status between the network and other cloud services.

Table 9-67 NetworkConnectionStatus

Parameter	Type	Description
peerConnectionStatus	Array of **PeerConnectionStatus** objects	**Definition**: Status of peering connections.
sfsTurboStatus	Array of **SfsTurboConnectionStatus** objects	**Definition**: Status of SFS Turbo accessible to the network.

Table 9-68 PeerConnectionStatus

Parameter	Type	Description
peerVpcId	String	**Definition**: VPC ID of the peer end. **Range**: N/A
peerSubnetId	String	**Definition**: Subnet ID of the peer end. **Range**: N/A
defaultGateWay	Boolean	**Definition**: Specifies whether to create a default route. **Range**: **false** (default value, indicating that no default route is created)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
phase	String	**Definition**: Connection status of the network. **Range**: • **Connecting**: The network is being connected. • **Active**: The network is connected properly. • **Abnormal**: The network connection is abnormal.

Table 9-69 SfsTurboConnectionStatus

Parameter	Type	Description
name	String	**Definition**: Name of the SFS Turbo instance. **Range**: N/A
sfsId	String	**Definition**: ID of the SFS Turbo instance. **Range**: N/A
connectionType	String	**Definition**: association mode. **Range**: • **VpcPort**: passthrough through attached NICs • **Peering**: connection through VPC peering
ipAddr	String	**Definition**: Access address of SFS Turbo. **Range**: N/A
status	String	**Definition**: Connection status of SFS Turbo. **Range**: • **Active**: The SFS connection is normal. • **Abnormal**: The SFS connection is abnormal. • **Creating**: The SFS connection is being set up. • **Deleting**: The SFS connection is being deleted.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

Obtain resource pools.

```
GET {endpoint}/v1/{project_id}/networks

{ }
```

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 the details of a specified network resource. This API is used when you need to query details about a specified network resource, such as

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

its configuration, status, or attributes. Before using this API, ensure that you have the required permission and the specified network resource exists in the system. After the query, the API returns the details of the specified network resource, including the resource ID, type, status, and configuration parameters. If the specified network resource does not exist, you do not have the operation permission, or the input parameters are incorrect, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:network:get	Read	network *	g:ResourceTag/<tag-key>	-	-
		-	g:EnterpriseProjectId		

URI

GET /v1/{project_id}/networks/{network_name}

Table 9-70 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
network_name	Yes	String	**Definition**: Network ID. The value is obtained from the **metadata.name** field in the network details. **Constraints*: The value can contain 36 to 63 characters. It must start with a lowercase letter and cannot end with a hyphen (-). Digits and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 9-71 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource. **Range**: • **v1**: The current resource version is v1.
kind	String	**Definition**: Resource type. **Range**: • **Network**
metadata	**NetworkMetadata** object	**Definition**: Metadata of a network resource.
spec	**NetworkSpec** object	**Definition**: Specifications of a network resource.
status	**NetworkStatus** object	**Definition**: Status of a network resource.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-72 NetworkMetadata

Parameter	Type	Description
name	String	**Definition**: Network resource ID. **Range**: N/A
creationTimestamp	String	**Definition**: Network creation time. For example, **2025-11-01T03:49:41Z**. **Range**: N/A
labels	**NetworkMetadataLabels** object	**Definition**: Network labels.
annotations	**NetworkMetadataAnnotations** object	**Definition**: Network annotations.

Table 9-73 NetworkMetadataLabels

Parameter	Type	Description
os.modelarts/name	String	**Definition**: Displayed name of a resource pool. **Range*: The value can contain 4 to 32 characters. It must start with a lowercase letter and cannot end with a hyphen (-). Digits and hyphens (-) are allowed.
os.modelarts/workspace.id	String	**Definition**: Workspace ID. [For details about how to obtain the ID, see **Querying the Workspace List**.] (tag:hc) **Range**: N/A

Table 9-74 NetworkMetadataAnnotations

Parameter	Type	Description
os.modelarts/description	String	**Definition**: Network description. **Range**: The value cannot contain these characters: !<>=&'".

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-75 NetworkSpec

Parameter	Type	Description
cidr	String	**Definition**: CIDR value of a network. **Range** • **172.16.0.0/12** to **172.16.0.0/24** • **192.168.0.0/16** to **192.168.0.0/24**
connection	**NetworkConnection** object	**Definition**: Connection information between the current network and other resources.

Table 9-76 NetworkConnection

Parameter	Type	Description
peerConnectionList	Array of **PeerConnectionItem** objects	**Definition**: Peering connections.

Table 9-77 PeerConnectionItem

Parameter	Type	Description
peerVpcId	String	**Definition**: VPC ID of the peer end. **Range**: N/A
peerSubnetId	String	**Definition**: Subnet ID of the peer end. **Range**: N/A
defaultGateWay	Boolean	**Definition**: Whether to create a default route. The default value is **false**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-78 NetworkStatus

Parameter	Type	Description
phase	String	**Definition**: Current status of a network resource. **Range**: • **Creating**: The network is being created. • **Active**: The network is functional. • **Abnormal**: The network is abnormal.
connectionStatus	**NetworkConnectionStatus** object	**Definition**: Connection status between the network and other cloud services.

Table 9-79 NetworkConnectionStatus

Parameter	Type	Description
peerConnectionStatus	Array of **PeerConnectionStatus** objects	**Definition**: Status of peering connections.
sfsTurboStatus	Array of **SfsTurboConnectionStatus** objects	**Definition**: Status of SFS Turbo accessible to the network.

Table 9-80 PeerConnectionStatus

Parameter	Type	Description
peerVpcId	String	**Definition**: VPC ID of the peer end. **Range**: N/A
peerSubnetId	String	**Definition**: Subnet ID of the peer end. **Range**: N/A
defaultGateWay	Boolean	**Definition**: Specifies whether to create a default route. **Range**: **false** (default value, indicating that no default route is created)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
phase	String	**Definition**: Connection status of the network. **Range**: • **Connecting**: The network is being connected. • **Active**: The network is connected properly. • **Abnormal**: The network connection is abnormal.

Table 9-81 SfsTurboConnectionStatus

Parameter	Type	Description
name	String	**Definition**: Name of the SFS Turbo instance. **Range**: N/A
sfsId	String	**Definition**: ID of the SFS Turbo instance. **Range**: N/A
connectionType	String	**Definition**: association mode. **Range**: • **VpcPort**: passthrough through attached NICs • **Peering**: connection through VPC peering
ipAddr	String	**Definition**: Access address of SFS Turbo. **Range**: N/A
status	String	**Definition**: Connection status of SFS Turbo. **Range**: • **Active**: The SFS connection is normal. • **Abnormal**: The SFS connection is abnormal. • **Creating**: The SFS connection is being set up. • **Deleting**: The SFS connection is being deleted.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status code: 404

Table 9-82 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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."
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 remove specified network resources. This API is used when you need to delete a specified network resource when the network resource is no longer required, the configuration is incorrect, or resources need to be cleared. Before using this API, ensure that the network resource exists and you have the administrator permissions. After the deletion, the specified network resource is permanently removed, and related configurations and associations are cleared. If the specified network resource does not exist, you do not have the operation permission, or the resource is depended on by other resources, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:network:delete	Write	network *	g:ResourceTag/<tag-key>	-	-

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
		-	g:EnterpriseProjectId		

URI

DELETE /v1/{project_id}/networks/{network_name}

Table 9-83 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
network_name	Yes	String	**Definition**: Network resource name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 9-84 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource. **Range**: • **v1**: The current resource version is v1.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
kind	String	**Definition**: Resource type. **Range**: • **Network**
metadata	**NetworkMetadata** object	**Definition**: Metadata of a network resource.
spec	**NetworkSpec** object	**Definition**: Specifications of a network resource.
status	**NetworkStatus** object	**Definition**: Status of a network resource.

Table 9-85 NetworkMetadata

Parameter	Type	Description
name	String	**Definition**: Network resource ID. **Range**: N/A
creationTimestamp	String	**Definition**: Network creation time. For example, **2025-11-01T03:49:41Z**. **Range**: N/A
labels	**NetworkMetadataLabels** object	**Definition**: Network labels.
annotations	**NetworkMetadataAnnotations** object	**Definition**: Network annotations.

Table 9-86 NetworkMetadataLabels

Parameter	Type	Description
os.modelarts/name	String	**Definition**: Displayed name of a resource pool. **Range*: The value can contain 4 to 32 characters. It must start with a lowercase letter and cannot end with a hyphen (-). Digits and hyphens (-) are allowed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/workspace.id	String	**Definition**: Workspace ID. [For details about how to obtain the ID, see **Querying the Workspace List**.] (tag:hc) **Range**: N/A

Table 9-87 NetworkMetadataAnnotations

Parameter	Type	Description
os.modelarts/description	String	**Definition**: Network description. **Range**: The value cannot contain these characters: !<>=&"'.

Table 9-88 NetworkSpec

Parameter	Type	Description
cidr	String	**Definition**: CIDR value of a network. **Range** • **172.16.0.0/12** to **172.16.0.0/24** • **192.168.0.0/16** to **192.168.0.0/24**
connection	**NetworkConnection** object	**Definition**: Connection information between the current network and other resources.

Table 9-89 NetworkConnection

Parameter	Type	Description
peerConnectionList	Array of **PeerConnectionItem** objects	**Definition**: Peering connections.

Table 9-90 PeerConnectionItem

Parameter	Type	Description
peerVpcId	String	**Definition**: VPC ID of the peer end. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
peerSubnetId	String	**Definition**: Subnet ID of the peer end. **Range**: N/A
defaultGateWay	Boolean	**Definition**: Whether to create a default route. The default value is **false**. **Range**: N/A

Table 9-91 NetworkStatus

Parameter	Type	Description
phase	String	**Definition**: Current status of a network resource. **Range**: • **Creating**: The network is being created. • **Active**: The network is functional. • **Abnormal**: The network is abnormal.
connectionStatus	**NetworkConnectionStatus** object	**Definition**: Connection status between the network and other cloud services.

Table 9-92 NetworkConnectionStatus

Parameter	Type	Description
peerConnectionStatus	Array of **PeerConnectionStatus** objects	**Definition**: Status of peering connections.
sfsTurboStatus	Array of **SfsTurboConnectionStatus** objects	**Definition**: Status of SFS Turbo accessible to the network.

Table 9-93 PeerConnectionStatus

Parameter	Type	Description
peerVpcId	String	**Definition**: VPC ID of the peer end. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
peerSubnetId	String	**Definition**: Subnet ID of the peer end. **Range**: N/A
defaultGateWay	Boolean	**Definition**: Specifies whether to create a default route. **Range**: **false** (default value, indicating that no default route is created)
phase	String	**Definition**: Connection status of the network. **Range**: • **Connecting**: The network is being connected. • **Active**: The network is connected properly. • **Abnormal**: The network connection is abnormal.

Table 9-94 SfsTurboConnectionStatus

Parameter	Type	Description
name	String	**Definition**: Name of the SFS Turbo instance. **Range**: N/A
sfsId	String	**Definition**: ID of the SFS Turbo instance. **Range**: N/A
connectionType	String	**Definition**: association mode. **Range**: • **VpcPort**: passthrough through attached NICs • **Peering**: connection through VPC peering
ipAddr	String	**Definition**: Access address of SFS Turbo. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Connection status of SFS Turbo. **Range**: • **Active**: The SFS connection is normal. • **Abnormal**: The SFS connection is abnormal. • **Creating**: The SFS connection is being set up. • **Deleting**: The SFS connection is being deleted.

Status code: 404

Table 9-95 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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" : { }
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  },
  "spec" : {
    "cidr" : "192.168.128.0/17",
    "connection" : {
      "peerConnectionList" : [ {
        "peerVpcId" : "03e4f4d7-fc62-409b-9c52-df885525e30b",
        "peerSubnetId" : "42aeebc3-f7c7-45aa-b884-e6e9ac2f841d",
        "defaultGateWay" : false
      } ]
    }
  },
  "status" : {
    "phase" : "Active",
    "connectionStatus" : {
      "peerConnectionStatus" : [ {
        "peerVpcId" : "03e4f4d7-fc62-409b-9c52-df885525e30b",
        "peerSubnetId" : "42aeebc3-f7c7-45aa-b884-e6e9ac2f841d",
        "defaultGateWay" : false,
        "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 the configuration information of a specified network resource. This API is used when you need to update the details of a specified network resource, such as adjusting attributes, fixing configuration errors, or optimizing resource settings. Before using this API, ensure that the network resource exists and you have the administrator permissions. After the update, the configuration information of the specified network resource is modified, and the latest resource status and attributes are displayed. If the specified network

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

resource does not exist, you do not have the operation permission, or the input parameters are incorrect, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:network:update	Write	network *	g:ResourceTag/<tag-key>	-	-
		-	g:EnterpriseProjectId		

URI

PATCH /v1/{project_id}/networks/{network_name}

Table 9-96 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
network_name	Yes	String	**Definition**: Network resource name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 9-97 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Message body type (format). Options: • **application/merge-patch+json**

Table 9-98 Request body parameters

Parameter	Mandatory	Type	Description
metadata	No	**NetworkMetadataUpdate** object	**Definition**: Metadata update information of the network resource. **Constraints**: N/A
spec	No	**NetworkSpecUpdate** object	**Definition**: Description update information of the network resource. **Constraints**: N/A

Table 9-99 NetworkMetadataUpdate

Parameter	Mandatory	Type	Description
annotations	No	**NetworkMetadataAnnotations** object	**Definition**: Resource annotations. **Constraints**: N/A

Table 9-100 NetworkMetadataAnnotations

Parameter	Mandatory	Type	Description
os.modelarts/description	No	String	**Definition**: Network description. **Range**: The value cannot contain these characters: !<>=&"'.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-101 NetworkSpecUpdate

Parameter	Mandatory	Type	Description
connection	No	**NetworkConnection** object	**Definition**: Network connection update information. **Constraints**: N/A

Table 9-102 NetworkConnection

Parameter	Mandatory	Type	Description
peerConnectionList	No	Array of **PeerConnectionItem** objects	**Definition**: Peering connections.

Table 9-103 PeerConnectionItem

Parameter	Mandatory	Type	Description
peerVpcId	Yes	String	**Definition**: VPC ID of the peer end. **Range**: N/A
peerSubnetId	Yes	String	**Definition**: Subnet ID of the peer end. **Range**: N/A
defaultGateWay	No	Boolean	**Definition**: Whether to create a default route. The default value is **false**. **Range**: N/A

Response Parameters

Status code: 200

Table 9-104 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource. **Range**: • **v1**: The current resource version is v1.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
kind	String	**Definition**: Resource type. **Range**: • **Network**
metadata	**NetworkMetadata** object	**Definition**: Metadata of a network resource.
spec	**NetworkSpec** object	**Definition**: Specifications of a network resource.
status	**NetworkStatus** object	**Definition**: Status of a network resource.

Table 9-105 NetworkMetadata

Parameter	Type	Description
name	String	**Definition**: Network resource ID. **Range**: N/A
creationTimestamp	String	**Definition**: Network creation time. For example, **2025-11-01T03:49:41Z**. **Range**: N/A
labels	**NetworkMetadataLabels** object	**Definition**: Network labels.
annotations	**NetworkMetadataAnnotations** object	**Definition**: Network annotations.

Table 9-106 NetworkMetadataLabels

Parameter	Type	Description
os.modelarts/name	String	**Definition**: Displayed name of a resource pool. **Range*: The value can contain 4 to 32 characters. It must start with a lowercase letter and cannot end with a hyphen (-). Digits and hyphens (-) are allowed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/workspace.id	String	**Definition**: Workspace ID. [For details about how to obtain the ID, see **Querying the Workspace List**.] (tag:hc) **Range**: N/A

Table 9-107 NetworkMetadataAnnotations

Parameter	Type	Description
os.modelarts/description	String	**Definition**: Network description. **Range**: The value cannot contain these characters: !<>=&"'.

Table 9-108 NetworkSpec

Parameter	Type	Description
cidr	String	**Definition**: CIDR value of a network. **Range** • **172.16.0.0/12** to **172.16.0.0/24** • **192.168.0.0/16** to **192.168.0.0/24**
connection	**NetworkConnection** object	**Definition**: Connection information between the current network and other resources.

Table 9-109 NetworkConnection

Parameter	Type	Description
peerConnectionList	Array of **PeerConnectionItem** objects	**Definition**: Peering connections.

Table 9-110 PeerConnectionItem

Parameter	Type	Description
peerVpcId	String	**Definition**: VPC ID of the peer end. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
peerSubnetId	String	**Definition**: Subnet ID of the peer end. **Range**: N/A
defaultGateWay	Boolean	**Definition**: Whether to create a default route. The default value is **false**. **Range**: N/A

Table 9-111 NetworkStatus

Parameter	Type	Description
phase	String	**Definition**: Current status of a network resource. **Range**: • **Creating**: The network is being created. • **Active**: The network is functional. • **Abnormal**: The network is abnormal.
connectionStatus	**NetworkConnectionStatus** object	**Definition**: Connection status between the network and other cloud services.

Table 9-112 NetworkConnectionStatus

Parameter	Type	Description
peerConnectionStatus	Array of **PeerConnectionStatus** objects	**Definition**: Status of peering connections.
sfsTurboStatus	Array of **SfsTurboConnectionStatus** objects	**Definition**: Status of SFS Turbo accessible to the network.

Table 9-113 PeerConnectionStatus

Parameter	Type	Description
peerVpcId	String	**Definition**: VPC ID of the peer end. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
peerSubnetId	String	**Definition**: Subnet ID of the peer end. **Range**: N/A
defaultGateWay	Boolean	**Definition**: Specifies whether to create a default route. **Range**: **false** (default value, indicating that no default route is created)
phase	String	**Definition**: Connection status of the network. **Range**: • **Connecting**: The network is being connected. • **Active**: The network is connected properly. • **Abnormal**: The network connection is abnormal.

Table 9-114 SfsTurboConnectionStatus

Parameter	Type	Description
name	String	**Definition**: Name of the SFS Turbo instance. **Range**: N/A
sfsId	String	**Definition**: ID of the SFS Turbo instance. **Range**: N/A
connectionType	String	**Definition**: association mode. **Range**: • **VpcPort**: passthrough through attached NICs • **Peering**: connection through VPC peering
ipAddr	String	**Definition**: Access address of SFS Turbo. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Connection status of SFS Turbo. **Range**: • **Active**: The SFS connection is normal. • **Abnormal**: The SFS connection is abnormal. • **Creating**: The SFS connection is being set up. • **Deleting**: The SFS connection is being deleted.

Status code: 400

Table 9-115 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 9-116 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

Interconnect with a VPC.

```
PATCH https://{endpoint}/v1/{project_id}/networks/{network_name}

{
  "spec" : {
    "connection" : {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "peerConnectionList" : [ {
      "peerVpcId" : "03e4f4d7-fc62-409b-9c52-df885525e30b",
      "peerSubnetId" : "42aeebc3-f7c7-45aa-b884-e6e9ac2f841d",
      "defaultGateWay" : false
    } ]
  }
 }
}
```

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" : false
     } ]
   }
 },
 "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."
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

This API is used to obtain the real-time usage of all resource pools in the current project. This API is used when you need to query the real-time usage of resource pools when monitoring resource usage, optimizing resources, planning capacity, or troubleshooting faults. The resource usage includes the usage of CPU, memory, and storage resources. Before using this API, ensure that you have the required permission and there is a running resource pool. After the query, the API returns the real-time usage data of the resource pool, including the usage percentage, resource type, and timestamp. If you do not have the required permission, the resource pool does not exist, or the system cannot obtain the real-time data, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:pool:list	List	pool *	-	-	-
		-	• g:EnterpriseProjectId • g:RequestTag/<tag-key> • g:TagKeys		

URI

GET /v2/{project_id}/metrics/runtime/pools

Table 9-117 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 9-118 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: Resource version. **Range**: • **os.modelarts.xxxxx/v2**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
kind	String	**Definition**: Resource type. **Range**: • PoolMetricsList
items	Array of **MetricsItem** objects	**Definition**: Metric list.

Table 9-119 MetricsItem

Parameter	Type	Description
table	**MetricTableItem** object	**Definition**: Resource list.
metadata	**ResourceMetrics-Metadata** object	**Definition**: Resource metric metadata.

Table 9-120 MetricTableItem

Parameter	Type	Description
allocated	**Allocated** object	**Definition**: Allocated resources.
capacity	**Capacity** object	**Definition**: Resource capacity.

Table 9-121 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 9-122 Capacity

Parameter	Type	Description
value	**Value** object	Resource amount.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
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 9-123 Value

Parameter	Type	Description
cpu	String	Number of CPUs, that is, number of computing resources.
memory	String	Memory.
tnt004	String	Number of GPUs.

Table 9-124 ResourceMetricsMetadata

Parameter	Type	Description
name	String	**Definition**: Name of a resource metric. **Range**: N/A
labels	Object	**Definition**: Tags 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"
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    },
    "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 a resource pool in the system. This API is used when you need to allocate resources for new services, optimize resource management, or isolate resources. You can use this API to create a resource pool to manage compute, storage, and network resources. Before using this API, ensure that you have the administrator permission and the system has sufficient resources to create resource pools. After the creation, the resource pool will be added to the system and be available for future resource allocation and management. If you do not have the required permission, the system resources are insufficient, or the input parameter is incorrect, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:pool:create	Write	pool *	-	-	-
		-	• g:EnterpriseProjectId • g:RequestTag/<tag-key> • g:TagKeys		

URI

POST /v2/{project_id}/pools

Table 9-125 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 9-126 Request header parameters

Parameter	Mandatory	Type	Description
X-ModelArts-User-ID	No	String	**Definition**: Tenant ID. If there is a tenant ID, it will be used for workspace authentication. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-127 Request body parameters

Parameter	Mandatory	Type	Description
apiVersion	Yes	String	**Definition**: API version. **Constraints**: N/A **Range**: • **v2** **Default Value**: N/A
kind	Yes	String	**Definition**: Resource type. **Constraints**: N/A **Range**: • **Pool**: resource pool **Default Value**: N/A
metadata	Yes	**PoolMetadataCreation** object	**Definition**: Resource pool metadata. **Constraints**: N/A
spec	No	**PoolSpecCreation** object	**Definition**: Resource pool description. **Constraints**: N/A

Table 9-128 PoolMetadataCreation

Parameter	Mandatory	Type	Description
labels	Yes	**PoolLabelsCreation** object	**Definition**: Tags of a resource pool. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
annotations	No	**PoolAnnotationsCreation** object	**Definition**: Comments of a resource pool. **Constraints**: N/A

Table 9-129 PoolLabelsCreation

Parameter	Mandatory	Type	Description
os.modelarts/name	Yes	String	**Definition**: Name of the resource pool specified by you. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/workspace.id	No	String	**Definition**: Workspace ID. [For details about how to obtain the ID, see **Querying the Workspace List**.] (tag:hc) **Constraints**: N/A **Range**: If no workspace is created, the default value is **0**. If a workspace is created and used, use the actual value. **Default Value**: N/A
os.modelarts/node.prefix	No	String	**Definition**: Prefix of the node name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-130 PoolAnnotationsCreation

Parameter	Mandatory	Type	Description
os.modelarts/description	No	String	**Definition**: Resource pool description. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
os.modelarts/billing.mode	No	String	**Definition**: Billing mode. **Constraints**: N/A **Range**: • **0**: pay-per-use • **1**: yearly/monthly **Default Value**: N/A
os.modelarts/period.num	No	String	**Definition**: Subscription period on a yearly/monthly basis, for example, **2**. This parameter is mandatory when the billing mode is yearly/monthly. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/period.type	No	String	**Definition**: Subscription type on a yearly/monthly basis. This parameter is mandatory when the billing mode is yearly/monthly. **Constraints**: N/A **Range**: • **2**: month • **3**: year **Default Value**: N/A
os.modelarts/auto.renew	No	String	**Definition**: Specifies whether to automatically renew the subscription. **Constraints**: N/A **Range**: • **0**: auto-renewal disabled • **1**: auto-renewal enabled **Default Value**: **0**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
os.modelarts/auto.pay	No	String	**Definition**: Specifies whether to automatically pay for the subscription. This parameter is only valid when you purchase a yearly/monthly resource. **Constraints**: N/A **Range**: • **true**: automatic payment • **false**: manual payment (default value) **Default Value**: N/A
os.modelarts/promotion.info	No	String	**Definition**: Discount selected on CBC. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/service.console.url	No	String	**Definition**: URL of the page displayed after the subscription order is paid. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/order.id	No	String	**Definition**: Order ID, which is mandatory for creating a yearly/monthly resource pool or changing the billing mode. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-131 PoolSpecCreation

Parameter	Mandatory	Type	Description
type	Yes	String	**Definition**: Resource pool type. **Constraints**: N/A **Range**: • **Dedicate**: physical resource pool, which uses a separate network and supports network connection, custom drivers, and custom job types. • **Logical**: logical resource pool. There is no independent network and network connectivity is not supported. Logical resource pools can be created and scaled faster than physical resource pools. **Default Value**: N/A
scope	Yes	Array of strings	**Definition**: Job types supported by a resource pool. **Constraints**: N/A **Range**: Select at least one type when you create a standard resource pool. All options are supported by physical resource pools. Options: • **Train**: training job • **Infer**: inference job • **Notebook**: notebook job **Default Value**: N/A
resources	Yes	Array of **PoolResourceFlavor** objects	**Definition**: Resource specifications in a resource pool, including resource specifications and the number of resources for each specification. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
network	Yes	**network** object	**Definition**: Network parameters of a resource pool. This parameter is mandatory when you create a physical resource pool. **Constraints**: N/A
jobFlavors	No	Array of strings	**Definition**: Job specifications supported by a resource pool, which are specified by the job specification name **Constraints**: N/A
driver	No	**PoolDriver** object	**Definition**: Resource pool driver information. **Constraints**: N/A

Table 9-132 PoolResourceFlavor

Parameter	Mandatory	Type	Description
flavor	Yes	String	**Definition**: Resource flavor, for example, **modelarts.vm.gpu.tnt004**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
count	Yes	Integer	**Definition**: Committed resources of the flavor. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
maxCount	No	Integer	**Definition**: Elastic resources of the flavor. The value must be the same as that of **count** in the physical pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
extendParams	No	**extendParams** object	**Definition**: Custom configuration parameters. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
os	No	Os object	**Definition**: Custom OS image information. **Constraints**: N/A

Table 9-133 extendParams

Parameter	Mandatory	Type	Description
dockerBaseSize	No	String	**Definition**: Container engine space of a node in a specified resource pool. The value **0** indicates that the size is not limited. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-134 Os

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: OS name and version, for example, EulorOS 2.5. This parameter can be left blank when a private image is specified. **Range**: N/A.
imageId	No	String	**Definition**: OS image ID. **Range**: N/A.
imageType	No	String	**Definition**: OS image type. This parameter must be specified when a private image is set. By default, the preset image is used. You do not need to specify this field. **Range**: • **private**: private images • "": The preset image is used.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
autoMatch	No	String	**Definition**: Automatic OS image matching configuration. If this parameter is set, the optimal image is automatically selected, and this parameter is automatically cleared. **Range**: OS name and version, for example, EulorOS 2.5.

Table 9-135 network

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Network name, which is the value of metadata.name in the network details. When you create a network with a specified name, the system will automatically create subnets for you. By default, the first subnet will be used. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-136 PoolDriver

Parameter	Mandatory	Type	Description
gpuVersion	No	String	**Definition**: Default GPU driver version of a resource pool. This parameter is only valid when the physical resource pool contains GPU specifications. **Range**: N/A
npuVersion	No	String	**Definition**: Default NPU driver version of a resource pool. This parameter is only valid when the physical resource pool contains NPU specifications. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
updateStrategy	No	String	**Definition**: Driver upgrade policy of a resource pool. **Range**: • **force**: forcible upgrade. The node drivers are upgraded immediately, which may affect jobs running on the node. • **idle**: secure upgrade. The drivers are upgraded when no job is running on the node.

Response Parameters

Status code: 200

Table 9-137 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource. **Range**: • **v2**: The current resource version is v2.
kind	String	**Definition**: Resource type. **Range**: • **Pool**: resource pool
metadata	**PoolMetadata** object	**Definition**: Metadata of the resource pool.
spec	**PoolSpecModel** object	**Definition**: Specifications of a resource pool.
status	**PoolStatus** object	**Definition**: Status of a resource pool.

Table 9-138 PoolMetadata

Parameter	Type	Description
name	String	**Definition**: Resource pool ID. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
creationTimestamp	String	**Definition**: Time when a resource pool is created. For example, **2025-11-01T03:49:41Z**. **Range**: N/A
labels	**PoolMetaLabels** object	**Definition**: Tags of a resource pool.
annotations	**PoolMetaAnnotations** object	**Definition**: Comments of a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-139 PoolMetaLabels

Parameter	Type	Description
os.modelarts/name	String	**Definition**: Displayed name of a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/workspace.id	String	**Definition**: Workspace ID. [For details about how to obtain the ID, see **Querying the Workspace List**.] (tag:hc,hk) **Constraints**: N/A **Range**: N/A **Default Value**: **0**
os.modelarts/node.prefix	String	**Definition**: Custom node prefix. This parameter is optional. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/resource.id	String	**Definition**: Resource ID used for resource pool billing. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/tenant.domain.id	String	**Definition**: ID of the tenant to which a resource pool belongs. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tenant.project.id	String	**Definition**: ID of the tenant project that a resource pool belongs to. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/enterprise.project.id	String	**Definition**: ID of the enterprise project that a resource pool belongs to. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/biz	String	**Definition**: Business type of a resource pool. The value can be **public** or **private**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/create-from	String	**Definition**: Source of a resource pool, for example, **admin-console**, indicating that the resource pool is created by the administrator on the ModelArts console. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/nobilling	String	**Definition**: Indicates whether the resource pool is charged. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/order.name	String	**Definition**: Last order job record associated with the resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/region	String	**Definition**: Region where the resource pool is located. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-140 PoolMetaAnnotations

Parameter	Type	Description
os.modelarts/description	String	**Definition**: Resource pool description. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/billing.mode	String	**Definition**: Billing mode. **Constraints**: N/A **Range**: • **0**: pay-per-use • **1**: yearly/monthly **Default Value**: N/A
os.modelarts/period.num	String	**Definition**: Subscription period of a yearly/monthly resource pool. **Constraints**: This parameter is used together with the **os.modelarts/period.type** field. **Range**: N/A **Default Value**: N/A
os.modelarts/period.type	String	**Definition**: Subscription type of a yearly/monthly resource pool. **Constraints**: This parameter is used together with the **os.modelarts/period.num** field. **Range**: • **2**: monthly • **3**: yearly **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/auto.renew	String	**Definition**: Auto-renewal status of a yearly/monthly resource pool. **Constraints**: N/A **Range**: • **0**: Auto-renewal is disabled. • **1**: Auto-renewal is enabled. **Default Value**: **0**
os.modelarts/promotion.info	String	**Definition**: Discount information selected when a yearly/monthly resource pool is purchased. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/service.console.url	String	**Definition**: URL to which you are redirected after the order of a yearly/monthly resource pool is paid. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/order.id	String	**Definition**: Order ID transferred when a yearly/monthly resource pool is purchased. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/flavor.resource.ids	String	**Definition**: Resource ID of the resource specifications in a yearly/monthly resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tms.tags	String	**Definition**: Resource tags of a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts.pool/scheduler.queue.strategy	String	**Definition**: Policy of the resource pool scheduling queue, which is used to define task scheduling rules. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/subpools.count	String	**Definition**: Number of logical subpools in a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tenant.domain.name	String	**Definition**: Tenant account of the resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/scope.external.dependency.train	String	**Definition**: External dependency ID of the training job. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-141 PoolSpecModel

Parameter	Type	Description
type	String	**Definition**: Resource pool type. **Constraints**: N/A **Range**: • **Dedicate**: physical resource pool, which uses a separate network and supports network connection, custom drivers, and custom job types. • **Logical**: logical resource pool. There is no independent network and network connectivity is not supported. Logical resource pools can be created and scaled faster than physical resource pools. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
scope	Array of strings	**Definition**: Job types supported by a resource pool.
resources	Array of **resources** objects	**Definition**: Resource specifications in a resource pool, including resource specifications and the number of resources for each specification.
containernetwork	**containernetwork** object	Kubernetes container network.
network	**network** object	**Definition**: Network parameters of a resource pool.
jobFlavors	Array of strings	**Definition**: Job specifications supported by a resource pool. The value is the job specification name.
driver	**PoolDriver** object	**Definition**: Resource pool driver information.
controlMode	Integer	**Definition**: Restriction status of a resource pool. Multiple statuses are allowed. For example, **9** indicates that it is frozen and changing its billing mode to yearly/monthly is restricted. **Range**: • **0**: not restricted • **1**: Changing to the yearly/monthly billing is restricted. • **2**: Modifying specifications is restricted. • **4**: The service is restricted. • **8**: The resource pool is frozen. • **16**: The resource pool is frozen by the public security department (cannot be unsubscribed).

Table 9-142 resources

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor ID. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
count	Integer	**Definition**: Number of resource specification instances in a resource pool. **Range**: N/A
maxCount	Integer	Elastic resource amount of the resource specifications. The value must be the same as that of **count** in the physical pool.
azs	Array of **PoolNodeAz** objects	**Definition**: AZ distribution of the resource specification instances to be created in a resource pool.
extendParams	**extendParams** object	**Definition**: Custom parameters of a resource pool.
os	**Os** object	**Definition**: OS image information of nodes in a resource pool.
dataVolumes	**dataVolumes** object	List of custom cloud data disks. The list cannot be modified after being specified.
volumeGroupConfigs	**volumeGroupConfigs** object	Advanced disk configurations.

Table 9-143 extendParams

Parameter	Type	Description
dockerBaseSize	String	**Definition**: Container engine space of a node created in a resource pool. The value **0** indicates that the size is not limited. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
volumeGroup	String	Disk group name.
runtime	String	Model runtime environment.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-144 Os

Parameter	Type	Description
name	String	**Definition**: OS name and version, for example, EulorOS 2.5. This parameter can be left blank when a private image is specified. **Range**: N/A.
imageId	String	**Definition**: OS image ID. **Range**: N/A.
imageType	String	**Definition**: OS image type. This parameter must be specified when a private image is set. By default, the preset image is used. You do not need to specify this field. **Range**: • **private**: private images • "": The preset image is used.
autoMatch	String	**Definition**: Automatic OS image matching configuration. If this parameter is set, the optimal image is automatically selected, and this parameter is automatically cleared. **Range**: OS name and version, for example, EulorOS 2.5.

Table 9-145 dataVolumes

Parameter	Type	Description
volumeType	String	Disk type.. Options: • **SSD**: ultra-high I/O disk • **GPSSD**: general-purpose SSD • **SAS**: high I/O disk
size	String	Disk size, in GiB.
count	String	Number of disks.
extendParams	**extendParams** object	Custom disk configuration.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-146 extendParams

Parameter	Type	Description
billing	String	Indicates whether the storage instance is billed. If this parameter is left blank, the storage instance is not billed. This field cannot be specified or modified by users.
volumeGroup	String	Name of a disk group, which is used to divide storage space. Options: • **vgpaas**: container disk. • **default**: common data disk, which is mounted in default mode. • **vguser{num}**: common data disk, which is mounted to a specified path. The group name varies depending on the path, for example, **vguser1** and **vguser2**. • **vg-everest-localvolume-persistent**: common data disk, which is used as the persistent storage volume. • **vg-everest-localvolume-ephemeral**: common data disk, which is used as a temporary storage volume.

Table 9-147 volumeGroupConfigs

Parameter	Type	Description
volumeGroup	String	Disk group name. Index of the volume group in the dataVolumes.
dockerThinPool	Integer	Percentage of container disks to data disks on nodes in a resource pool. This parameter can be specified only when **volumeGroup** is **vgpaas** (container disk).
lvmConfig	**lvmConfig** object	LVM configuration management.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-148 lvmConfig

Parameter	Type	Description
lvType	String	LVM write mode. Options: • **linear**: linear mode. • **striped**: striped mode in which multiple disks are used to form a strip to improve disk performance.

Table 9-149 containernetwork

Parameter	Type	Description
mode	String	Container network model. Options: **overlay_l2**: an overlay_l2 network (container tunnel network) built for containers by using OpenVSwitch (OVS). • **vpc-router**: an underlay_l2 network built for containers by using IPvlan and custom VPC routes. • **eni**: Cloud Native Network 2.0. This model deeply integrates the native ENI capability of VPC, uses the VPC CIDR block to allocate container addresses, and supports passthrough networking. You can use this model when creating a CCE Turbo cluster.

Table 9-150 network

Parameter	Type	Description
name	String	**Definition**: Network ID. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-151 PoolDriver

Parameter	Type	Description
gpuVersion	String	**Definition**: Default GPU driver version of a resource pool. This parameter is only valid when the physical resource pool contains GPU specifications. **Range**: N/A
npuVersion	String	**Definition**: Default NPU driver version of a resource pool. This parameter is only valid when the physical resource pool contains NPU specifications. **Range**: N/A
updateStrategy	String	**Definition**: Driver upgrade policy of a resource pool. **Range**: • **force**: forcible upgrade. The node drivers are upgraded immediately, which may affect jobs running on the node. • **idle**: secure upgrade. The drivers are upgraded when no job is running on the node.

Table 9-152 PoolStatus

Parameter	Type	Description
phase	String	**Definition**: Resource pool status. **Range**: • **Creating**: The resource pool is being created. • **Running**: The resource pool is running. • **Abnormal**: The resource pool is abnormal. • **Deleting**: The resource pool is being deleted. • **Error**: An error occurred in the resource pool.
message	String	**Definition**: Prompt information about the resource pool status. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
resources	**resources** object	**Definition**: Resource information in different states of the resource pool.
scope	Array of **scope** objects	**Definition**: Status of the service type supported by the resource pool.
driver	**driver** object	**Definition**: Resource pool driver status.
parent	String	**Definition**: ID of the parent resource pool to which a resource pool belongs. The physical pool is empty. **Range**: N/A
root	String	**Definition**: ID of the root resource pool. **Range**: N/A
clusters	**clusters** object	Resource pool cluster information. This parameter is available only for privileged pools.

Table 9-153 resources

Parameter	Type	Description
creating	**PoolResourceFlavorCount** object	**Definition**: Resource information in creating states of the resource pool.
available	**PoolResourceFlavorCount** object	**Definition**: Resource information in available states of the resource pool.
abnormal	**PoolResourceFlavorCount** object	**Definition**: Resource information in abnormal states of the resource pool.
deleting	**PoolResourceFlavorCount** object	**Definition**: Resource information in deleting states of the resource pool.

Table 9-154 PoolResourceFlavorCount

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor ID. **Range**: N/A
count	Integer	**Definition**: Number of resource specification instances in a resource pool. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
maxCount	Integer	**Definition**: Number of elastic resource specification instances in a resource pool. The value of this parameter in a physical pool is the same as that of **count**. **Range**: N/A
azs	Array of **PoolNodeAz** objects	**Definition**: AZ distribution of the resource specification instances to be created in a resource pool.
nodePool	String	**Definition**: Node pool ID. **Range**: N/A

Table 9-155 PoolNodeAz

Parameter	Type	Description
az	String	**Definition**: AZ name. **Range**: N/A
count	Integer	**Definition**: Number of AZ resource instances. **Range**: N/A

Table 9-156 scope

Parameter	Type	Description
scopeType	String	**Definition**: Service type of the resource pool. **Range**: • **Train**: training jobs • **Infer**: inference jobs • **Notebook**: notebook jobs

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
state	String	**Definition**: Service type status of the resource pool. **Range**: • **Enabling**: The service is being enabled. • **Enabled**: The service has been enabled. • **Disabling**: The service is being disabled. • **Disabled**: The service has been disabled.

Table 9-157 driver

Parameter	Type	Description
gpu	**PoolDriverStatus** object	**Definition**: GPU driver status of a resource pool. **Range**: N/A
npu	**PoolDriverStatus** object	**Definition**: NPU driver status of a resource pool. **Range**: N/A

Table 9-158 PoolDriverStatus

Parameter	Type	Description
version	String	**Definition**: Current driver version of a resource pool. **Range**: N/A
state	String	**Definition**: Current driver status of a resource pool. **Range**: • **Creating**: The driver is being installed. • **Upgrading**: The driver is being upgraded. • **Running**: The driver is running. • **Abnormal**: The driver is abnormal.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-159 clusters

Parameter	Type	Description
name	String	Cluster name.
clusterFlavor	String	Cluster flavor of a standard pool.
type	String	Type of the resource pool cluster.
version	String	Cluster version.
plugins	**plugins** object	Name of the plugin supported by the cluster.

Table 9-160 plugins

Parameter	Type	Description
name	String	Name of the plugin supported by the cluster.

Status code: 400

Table 9-161 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 409

Table 9-162 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
400	Bad request
409	Already exists

Error Codes

See **Error Codes**.

9.13 Obtaining Resource Pools

Function

This API is used to obtain information about resource pools created in the system. This API is used when you need to query the resource pool list recorded in the system when monitoring resource pool status, planning resources, managing resource allocation, or auditing. Before using this API, ensure that you have the required permission and the resource pool exists in the system. After the query, the API returns the resource pool list, including the resource pool ID, name, type, status, and resource quota. If you do not have the required permission, the resource pools do not exist in the system, or the query parameter is incorrect, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:pool:list	List	pool *	-	-	-

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
		-	• g:EnterpriseProjectId • g:RequestTag/<tag-key> • g:TagKeys		

URI

GET /v2/{project_id}/pools

Table 9-163 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-164 Query Parameters

Parameter	Mandatory	Type	Description
workspaceId	No	String	**Definition**: Workspace ID.[For details about how to obtain the ID, see **Querying the Workspace List**.] (tag:hc,hk) If no workspace is created, the default value is **0**. If a workspace is created and used, use the actual value. **Constraints**: N/A **Range**: N/A **Default Value**: **0**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
labelSelector	No	String	**Definition**: Resource pool tag filtering **Constraints**: N/A **Range**: N/A **Default Value**: N/A
status	No	String	**Definition**: Resource pool status **Constraints**: N/A **Range**: The options are as follows: • **created**: The resource pool is successfully created. • **failed**: The resource pool failed to be created. The failure record is retained for three days. • **creating**: The resource pool is being created. **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 9-165 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource. **Range**: • **v2**: The current resource version is v2.
kind	String	**Definition**: Resource type. **Range**: • **PoolList**: Resource pool list.
items	Array of **PoolModel** objects	**Definition**: Resource list.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-166 PoolModel

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource. **Range**: • **v2**: The current resource version is v2.
kind	String	**Definition**: Resource type. **Range**: • **Pool**: resource pool
metadata	**PoolMetadata** object	**Definition**: Metadata of the resource pool.
spec	**PoolSpecModel** object	**Definition**: Specifications of a resource pool.
status	**PoolStatus** object	**Definition**: Status of a resource pool.

Table 9-167 PoolMetadata

Parameter	Type	Description
name	String	**Definition**: Resource pool ID. **Range**: N/A
creationTimestamp	String	**Definition**: Time when a resource pool is created. For example, **2025-11-01T03:49:41Z**. **Range**: N/A
labels	**PoolMetaLabels** object	**Definition**: Tags of a resource pool.
annotations	**PoolMetaAnnotations** object	**Definition**: Comments of a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-168 PoolMetaLabels

Parameter	Type	Description
os.modelarts/name	String	**Definition**: Displayed name of a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/workspace.id	String	**Definition**: Workspace ID. [For details about how to obtain the ID, see **Querying the Workspace List**.] (tag:hc,hk) **Constraints**: N/A **Range**: N/A **Default Value**: **0**
os.modelarts/node.prefix	String	**Definition**: Custom node prefix. This parameter is optional. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/resource.id	String	**Definition**: Resource ID used for resource pool billing. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tenant.domain.id	String	**Definition**: ID of the tenant to which a resource pool belongs. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tenant.project.id	String	**Definition**: ID of the tenant project that a resource pool belongs to. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/enterprise.project.id	String	**Definition**: ID of the enterprise project that a resource pool belongs to. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts.pool/biz	String	**Definition**: Business type of a resource pool. The value can be **public** or **private**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/create-from	String	**Definition**: Source of a resource pool, for example, **admin-console**, indicating that the resource pool is created by the administrator on the ModelArts console. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/nobilling	String	**Definition**: Indicates whether the resource pool is charged. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/order.name	String	**Definition**: Last order job record associated with the resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/region	String	**Definition**: Region where the resource pool is located. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-169 PoolMetaAnnotations

Parameter	Type	Description
os.modelarts/description	String	**Definition**: Resource pool description. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/billing.mode	String	**Definition**: Billing mode. **Constraints**: N/A **Range**: ● **0**: pay-per-use ● **1**: yearly/monthly **Default Value**: N/A
os.modelarts/period.num	String	**Definition**: Subscription period of a yearly/monthly resource pool. **Constraints**: This parameter is used together with the **os.modelarts/period.type** field. **Range**: N/A **Default Value**: N/A
os.modelarts/period.type	String	**Definition**: Subscription type of a yearly/monthly resource pool. **Constraints**: This parameter is used together with the **os.modelarts/period.num** field. **Range**: ● **2**: monthly ● **3**: yearly **Default Value**: N/A
os.modelarts/auto.renew	String	**Definition**: Auto-renewal status of a yearly/monthly resource pool. **Constraints**: N/A **Range**: ● **0**: Auto-renewal is disabled. ● **1**: Auto-renewal is enabled. **Default Value**: **0**
os.modelarts/promotion.info	String	**Definition**: Discount information selected when a yearly/monthly resource pool is purchased. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/service.console.url	String	**Definition**: URL to which you are redirected after the order of a yearly/monthly resource pool is paid. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/order.id	String	**Definition**: Order ID transferred when a yearly/monthly resource pool is purchased. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/flavor.resource.ids	String	**Definition**: Resource ID of the resource specifications in a yearly/monthly resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tms.tags	String	**Definition**: Resource tags of a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/scheduler.queue.strategy	String	**Definition**: Policy of the resource pool scheduling queue, which is used to define task scheduling rules. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/subpools.count	String	**Definition**: Number of logical subpools in a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tenant.domain.name	String	**Definition**: Tenant account of the resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts.pool/scope.external.dependency.train	String	**Definition**: External dependency ID of the training job. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-170 PoolSpecModel

Parameter	Type	Description
type	String	**Definition**: Resource pool type. **Constraints**: N/A **Range**: • **Dedicate**: physical resource pool, which uses a separate network and supports network connection, custom drivers, and custom job types. • **Logical**: logical resource pool. There is no independent network and network connectivity is not supported. Logical resource pools can be created and scaled faster than physical resource pools. **Default Value**: N/A
scope	Array of strings	**Definition**: Job types supported by a resource pool.
resources	Array of **resources** objects	**Definition**: Resource specifications in a resource pool, including resource specifications and the number of resources for each specification.
containernetwork	**containernetwork** object	Kubernetes container network.
network	**network** object	**Definition**: Network parameters of a resource pool.
jobFlavors	Array of strings	**Definition**: Job specifications supported by a resource pool. The value is the job specification name.
driver	**PoolDriver** object	**Definition**: Resource pool driver information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
controlMode	Integer	**Definition**: Restriction status of a resource pool. Multiple statuses are allowed. For example, **9** indicates that it is frozen and changing its billing mode to yearly/monthly is restricted. **Range**: • **0**: not restricted • **1**: Changing to the yearly/monthly billing is restricted. • **2**: Modifying specifications is restricted. • **4**: The service is restricted. • **8**: The resource pool is frozen. • **16**: The resource pool is frozen by the public security department (cannot be unsubscribed).

Table 9-171 resources

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor ID. **Range**: N/A
count	Integer	**Definition**: Number of resource specification instances in a resource pool. **Range**: N/A
maxCount	Integer	Elastic resource amount of the resource specifications. The value must be the same as that of **count** in the physical pool.
azs	Array of **PoolNodeAz** objects	**Definition**: AZ distribution of the resource specification instances to be created in a resource pool.
extendParams	**extendParams** object	**Definition**: Custom parameters of a resource pool.
os	**Os** object	**Definition**: OS image information of nodes in a resource pool.
dataVolumes	**dataVolumes** object	List of custom cloud data disks. The list cannot be modified after being specified.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
volumeGroupConfigs	**volumeGroupConfigs** object	Advanced disk configurations.

Table 9-172 extendParams

Parameter	Type	Description
dockerBaseSize	String	**Definition**: Container engine space of a node created in a resource pool. The value **0** indicates that the size is not limited. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
volumeGroup	String	Disk group name.
runtime	String	Model runtime environment.

Table 9-173 Os

Parameter	Type	Description
name	String	**Definition**: OS name and version, for example, EulorOS 2.5. This parameter can be left blank when a private image is specified. **Range**: N/A.
imageId	String	**Definition**: OS image ID. **Range**: N/A.
imageType	String	**Definition**: OS image type. This parameter must be specified when a private image is set. By default, the preset image is used. You do not need to specify this field. **Range**: • **private**: private images • "": The preset image is used.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
autoMatch	String	**Definition**: Automatic OS image matching configuration. If this parameter is set, the optimal image is automatically selected, and this parameter is automatically cleared. **Range**: OS name and version, for example, EulorOS 2.5.

Table 9-174 dataVolumes

Parameter	Type	Description
volumeType	String	Disk type.. Options: • **SSD**: ultra-high I/O disk • **GPSSD**: general-purpose SSD • **SAS**: high I/O disk
size	String	Disk size, in GiB.
count	String	Number of disks.
extendParams	**extendParams** object	Custom disk configuration.

Table 9-175 extendParams

Parameter	Type	Description
billing	String	Indicates whether the storage instance is billed. If this parameter is left blank, the storage instance is not billed. This field cannot be specified or modified by users.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
volumeGroup	String	Name of a disk group, which is used to divide storage space. Options: • **vgpaas**: container disk. • **default**: common data disk, which is mounted in default mode. • **vguser{num}**: common data disk, which is mounted to a specified path. The group name varies depending on the path, for example, **vguser1** and **vguser2**. • **vg-everest-localvolume-persistent**: common data disk, which is used as the persistent storage volume. • **vg-everest-localvolume-ephemeral**: common data disk, which is used as a temporary storage volume.

Table 9-176 volumeGroupConfigs

Parameter	Type	Description
volumeGroup	String	Disk group name. Index of the volume group in the dataVolumes.
dockerThinPool	Integer	Percentage of container disks to data disks on nodes in a resource pool. This parameter can be specified only when **volumeGroup** is **vgpaas** (container disk).
lvmConfig	**lvmConfig** object	LVM configuration management.

Table 9-177 lvmConfig

Parameter	Type	Description
lvType	String	LVM write mode. Options: • **linear**: linear mode. • **striped**: striped mode in which multiple disks are used to form a strip to improve disk performance.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-178 containernetwork

Parameter	Type	Description
mode	String	Container network model. Options: **overlay_l2**: an overlay_l2 network (container tunnel network) built for containers by using OpenVSwitch (OVS). • **vpc-router**: an underlay_l2 network built for containers by using IPvlan and custom VPC routes. • **eni**: Cloud Native Network 2.0. This model deeply integrates the native ENI capability of VPC, uses the VPC CIDR block to allocate container addresses, and supports passthrough networking. You can use this model when creating a CCE Turbo cluster.

Table 9-179 network

Parameter	Type	Description
name	String	**Definition**: Network ID. **Range**: N/A

Table 9-180 PoolDriver

Parameter	Type	Description
gpuVersion	String	**Definition**: Default GPU driver version of a resource pool. This parameter is only valid when the physical resource pool contains GPU specifications. **Range**: N/A
npuVersion	String	**Definition**: Default NPU driver version of a resource pool. This parameter is only valid when the physical resource pool contains NPU specifications. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
updateStrategy	String	**Definition**: Driver upgrade policy of a resource pool. **Range**: • **force**: forcible upgrade. The node drivers are upgraded immediately, which may affect jobs running on the node. • **idle**: secure upgrade. The drivers are upgraded when no job is running on the node.

Table 9-181 PoolStatus

Parameter	Type	Description
phase	String	**Definition**: Resource pool status. **Range**: • **Creating**: The resource pool is being created. • **Running**: The resource pool is running. • **Abnormal**: The resource pool is abnormal. • **Deleting**: The resource pool is being deleted. • **Error**: An error occurred in the resource pool.
message	String	**Definition**: Prompt information about the resource pool status. **Range**: N/A
resources	**resources** object	**Definition**: Resource information in different states of the resource pool.
scope	Array of **scope** objects	**Definition**: Status of the service type supported by the resource pool.
driver	**driver** object	**Definition**: Resource pool driver status.
parent	String	**Definition**: ID of the parent resource pool to which a resource pool belongs. The physical pool is empty. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
root	String	**Definition**: ID of the root resource pool. **Range**: N/A
clusters	**clusters** object	Resource pool cluster information. This parameter is available only for privileged pools.

Table 9-182 resources

Parameter	Type	Description
creating	**PoolResourceFlavorCount** object	**Definition**: Resource information in creating states of the resource pool.
available	**PoolResourceFlavorCount** object	**Definition**: Resource information in available states of the resource pool.
abnormal	**PoolResourceFlavorCount** object	**Definition**: Resource information in abnormal states of the resource pool.
deleting	**PoolResourceFlavorCount** object	**Definition**: Resource information in deleting states of the resource pool.

Table 9-183 PoolResourceFlavorCount

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor ID. **Range**: N/A
count	Integer	**Definition**: Number of resource specification instances in a resource pool. **Range**: N/A
maxCount	Integer	**Definition**: Number of elastic resource specification instances in a resource pool. The value of this parameter in a physical pool is the same as that of **count**. **Range**: N/A
azs	Array of **PoolNodeAz** objects	**Definition**: AZ distribution of the resource specification instances to be created in a resource pool.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
nodePool	String	**Definition**: Node pool ID. **Range**: N/A

Table 9-184 PoolNodeAz

Parameter	Type	Description
az	String	**Definition**: AZ name. **Range**: N/A
count	Integer	**Definition**: Number of AZ resource instances. **Range**: N/A

Table 9-185 scope

Parameter	Type	Description
scopeType	String	**Definition**: Service type of the resource pool. **Range**: • **Train**: training jobs • **Infer**: inference jobs • **Notebook**: notebook jobs
state	String	**Definition**: Service type status of the resource pool. **Range**: • **Enabling**: The service is being enabled. • **Enabled**: The service has been enabled. • **Disabling**: The service is being disabled. • **Disabled**: The service has been disabled.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-186 driver

Parameter	Type	Description
gpu	**PoolDriverStatus** object	**Definition**: GPU driver status of a resource pool. **Range**: N/A
npu	**PoolDriverStatus** object	**Definition**: NPU driver status of a resource pool. **Range**: N/A

Table 9-187 PoolDriverStatus

Parameter	Type	Description
version	String	**Definition**: Current driver version of a resource pool. **Range**: N/A
state	String	**Definition**: Current driver status of a resource pool. **Range**: • **Creating**: The driver is being installed. • **Upgrading**: The driver is being upgraded. • **Running**: The driver is running. • **Abnormal**: The driver is abnormal.

Table 9-188 clusters

Parameter	Type	Description
name	String	Cluster name.
clusterFlavor	String	Cluster flavor of a standard pool.
type	String	Type of the resource pool cluster.
version	String	Cluster version.
plugins	**plugins** object	Name of the plugin supported by the cluster.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-189 plugins

Parameter	Type	Description
name	String	Name of the plugin supported by the cluster.

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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
        "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 the details of a specified resource pool. This API is used when you need to query details about a specified resource pool, such as its configuration, status, resource usage, or resource management. Before using this API, ensure that you have the required permission and the specified resource pool exists in the system. After the query, the API returns the resource pool details, including the resource pool ID, name, type, status, resource quota, and usage. If the specified resource pool does not exist, the user does not have the permission to perform the operation, or the input parameters are incorrect, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:pool:get	Read	pool *	g:ResourceTag/<tag-key>	-	-
		-	g:EnterpriseProjectId		

URI

GET /v2/{project_id}/pools/{pool_name}

Table 9-190 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Definition**: Resource pool ID. The value is obtained from the **metadata.name** field in the resource pool details. **Constraints**: N/A **Range*: The value can contain 36 to 63 characters. It must start with a lowercase letter and cannot end with a hyphen (-). Digits and hyphens (-) are allowed. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 9-191 Request header parameters

Parameter	Mandatory	Type	Description
X-ModelArts-User-ID	No	String	**Definition**: Tenant ID. This ID is used for authentication when this parameter is transferred. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

Table 9-192 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource. **Range**: • **v2**: The current resource version is v2.
kind	String	**Definition**: Resource type. **Range**: • **Pool**: resource pool
metadata	**PoolMetadata** object	**Definition**: Metadata of the resource pool.
spec	**PoolSpecModel** object	**Definition**: Specifications of a resource pool.
status	**PoolStatus** object	**Definition**: Status of a resource pool.

Table 9-193 PoolMetadata

Parameter	Type	Description
name	String	**Definition**: Resource pool ID. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
creationTimestamp	String	**Definition**: Time when a resource pool is created. For example, **2025-11-01T03:49:41Z**. **Range**: N/A
labels	**PoolMetaLabels** object	**Definition**: Tags of a resource pool.
annotations	**PoolMetaAnnotations** object	**Definition**: Comments of a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-194 PoolMetaLabels

Parameter	Type	Description
os.modelarts/name	String	**Definition**: Displayed name of a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/workspace.id	String	**Definition**: Workspace ID. [For details about how to obtain the ID, see **Querying the Workspace List**.] (tag:hc,hk) **Constraints**: N/A **Range**: N/A **Default Value**: **0**
os.modelarts/node.prefix	String	**Definition**: Custom node prefix. This parameter is optional. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/resource.id	String	**Definition**: Resource ID used for resource pool billing. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/tenant.domain.id	String	**Definition**: ID of the tenant to which a resource pool belongs. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tenant.project.id	String	**Definition**: ID of the tenant project that a resource pool belongs to. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/enterprise.project.id	String	**Definition**: ID of the enterprise project that a resource pool belongs to. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/biz	String	**Definition**: Business type of a resource pool. The value can be **public** or **private**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/create-from	String	**Definition**: Source of a resource pool, for example, **admin-console**, indicating that the resource pool is created by the administrator on the ModelArts console. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/nobilling	String	**Definition**: Indicates whether the resource pool is charged. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/order.name	String	**Definition**: Last order job record associated with the resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/region	String	**Definition**: Region where the resource pool is located. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-195 PoolMetaAnnotations

Parameter	Type	Description
os.modelarts/description	String	**Definition**: Resource pool description. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/billing.mode	String	**Definition**: Billing mode. **Constraints**: N/A **Range**: • **0**: pay-per-use • **1**: yearly/monthly **Default Value**: N/A
os.modelarts/period.num	String	**Definition**: Subscription period of a yearly/monthly resource pool. **Constraints**: This parameter is used together with the **os.modelarts/period.type** field. **Range**: N/A **Default Value**: N/A
os.modelarts/period.type	String	**Definition**: Subscription type of a yearly/monthly resource pool. **Constraints**: This parameter is used together with the **os.modelarts/period.num** field. **Range**: • **2**: monthly • **3**: yearly **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/auto.renew	String	**Definition**: Auto-renewal status of a yearly/monthly resource pool. **Constraints**: N/A **Range**: • **0**: Auto-renewal is disabled. • **1**: Auto-renewal is enabled. **Default Value**: **0**
os.modelarts/promotion.info	String	**Definition**: Discount information selected when a yearly/monthly resource pool is purchased. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/service.console.url	String	**Definition**: URL to which you are redirected after the order of a yearly/monthly resource pool is paid. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/order.id	String	**Definition**: Order ID transferred when a yearly/monthly resource pool is purchased. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/flavor.resource.ids	String	**Definition**: Resource ID of the resource specifications in a yearly/monthly resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tms.tags	String	**Definition**: Resource tags of a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts.pool/scheduler.queue.strategy	String	**Definition**: Policy of the resource pool scheduling queue, which is used to define task scheduling rules. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/subpools.count	String	**Definition**: Number of logical subpools in a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tenant.domain.name	String	**Definition**: Tenant account of the resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/scope.external.dependency.train	String	**Definition**: External dependency ID of the training job. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-196 PoolSpecModel

Parameter	Type	Description
type	String	**Definition**: Resource pool type. **Constraints**: N/A **Range**: • **Dedicate**: physical resource pool, which uses a separate network and supports network connection, custom drivers, and custom job types. • **Logical**: logical resource pool. There is no independent network and network connectivity is not supported. Logical resource pools can be created and scaled faster than physical resource pools. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
scope	Array of strings	**Definition**: Job types supported by a resource pool.
resources	Array of **resources** objects	**Definition**: Resource specifications in a resource pool, including resource specifications and the number of resources for each specification.
containernetwork	**containernetwork** object	Kubernetes container network.
network	**network** object	**Definition**: Network parameters of a resource pool.
jobFlavors	Array of strings	**Definition**: Job specifications supported by a resource pool. The value is the job specification name.
driver	**PoolDriver** object	**Definition**: Resource pool driver information.
controlMode	Integer	**Definition**: Restriction status of a resource pool. Multiple statuses are allowed. For example, **9** indicates that it is frozen and changing its billing mode to yearly/monthly is restricted. **Range**: • **0**: not restricted • **1**: Changing to the yearly/monthly billing is restricted. • **2**: Modifying specifications is restricted. • **4**: The service is restricted. • **8**: The resource pool is frozen. • **16**: The resource pool is frozen by the public security department (cannot be unsubscribed).

Table 9-197 resources

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor ID. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
count	Integer	**Definition**: Number of resource specification instances in a resource pool. **Range**: N/A
maxCount	Integer	Elastic resource amount of the resource specifications. The value must be the same as that of **count** in the physical pool.
azs	Array of **PoolNodeAz** objects	**Definition**: AZ distribution of the resource specification instances to be created in a resource pool.
extendParams	**extendParams** object	**Definition**: Custom parameters of a resource pool.
os	**Os** object	**Definition**: OS image information of nodes in a resource pool.
dataVolumes	**dataVolumes** object	List of custom cloud data disks. The list cannot be modified after being specified.
volumeGroupConfigs	**volumeGroupConfigs** object	Advanced disk configurations.

Table 9-198 extendParams

Parameter	Type	Description
dockerBaseSize	String	**Definition**: Container engine space of a node created in a resource pool. The value **0** indicates that the size is not limited. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
volumeGroup	String	Disk group name.
runtime	String	Model runtime environment.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-199 Os

Parameter	Type	Description
name	String	**Definition**: OS name and version, for example, EulorOS 2.5. This parameter can be left blank when a private image is specified. **Range**: N/A.
imageId	String	**Definition**: OS image ID. **Range**: N/A.
imageType	String	**Definition**: OS image type. This parameter must be specified when a private image is set. By default, the preset image is used. You do not need to specify this field. **Range**: • **private**: private images • "": The preset image is used.
autoMatch	String	**Definition**: Automatic OS image matching configuration. If this parameter is set, the optimal image is automatically selected, and this parameter is automatically cleared. **Range**: OS name and version, for example, EulorOS 2.5.

Table 9-200 dataVolumes

Parameter	Type	Description
volumeType	String	Disk type.. Options: • **SSD**: ultra-high I/O disk • **GPSSD**: general-purpose SSD • **SAS**: high I/O disk
size	String	Disk size, in GiB.
count	String	Number of disks.
extendParams	**extendParams** object	Custom disk configuration.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-201 extendParams

Parameter	Type	Description
billing	String	Indicates whether the storage instance is billed. If this parameter is left blank, the storage instance is not billed. This field cannot be specified or modified by users.
volumeGroup	String	Name of a disk group, which is used to divide storage space. Options: • **vgpaas**: container disk. • **default**: common data disk, which is mounted in default mode. • **vguser{num}**: common data disk, which is mounted to a specified path. The group name varies depending on the path, for example, **vguser1** and **vguser2**. • **vg-everest-localvolume-persistent**: common data disk, which is used as the persistent storage volume. • **vg-everest-localvolume-ephemeral**: common data disk, which is used as a temporary storage volume.

Table 9-202 volumeGroupConfigs

Parameter	Type	Description
volumeGroup	String	Disk group name. Index of the volume group in the dataVolumes.
dockerThinPool	Integer	Percentage of container disks to data disks on nodes in a resource pool. This parameter can be specified only when **volumeGroup** is **vgpaas** (container disk).
lvmConfig	**lvmConfig** object	LVM configuration management.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-203 lvmConfig

Parameter	Type	Description
lvType	String	LVM write mode. Options: • **linear**: linear mode. • **striped**: striped mode in which multiple disks are used to form a strip to improve disk performance.

Table 9-204 containernetwork

Parameter	Type	Description
mode	String	Container network model. Options: **overlay_l2**: an overlay_l2 network (container tunnel network) built for containers by using OpenVSwitch (OVS). • **vpc-router**: an underlay_l2 network built for containers by using IPvlan and custom VPC routes. • **eni**: Cloud Native Network 2.0. This model deeply integrates the native ENI capability of VPC, uses the VPC CIDR block to allocate container addresses, and supports passthrough networking. You can use this model when creating a CCE Turbo cluster.

Table 9-205 network

Parameter	Type	Description
name	String	**Definition**: Network ID. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-206 PoolDriver

Parameter	Type	Description
gpuVersion	String	**Definition**: Default GPU driver version of a resource pool. This parameter is only valid when the physical resource pool contains GPU specifications. **Range**: N/A
npuVersion	String	**Definition**: Default NPU driver version of a resource pool. This parameter is only valid when the physical resource pool contains NPU specifications. **Range**: N/A
updateStrategy	String	**Definition**: Driver upgrade policy of a resource pool. **Range**: • **force**: forcible upgrade. The node drivers are upgraded immediately, which may affect jobs running on the node. • **idle**: secure upgrade. The drivers are upgraded when no job is running on the node.

Table 9-207 PoolStatus

Parameter	Type	Description
phase	String	**Definition**: Resource pool status. **Range**: • **Creating**: The resource pool is being created. • **Running**: The resource pool is running. • **Abnormal**: The resource pool is abnormal. • **Deleting**: The resource pool is being deleted. • **Error**: An error occurred in the resource pool.
message	String	**Definition**: Prompt information about the resource pool status. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
resources	**resources** object	**Definition**: Resource information in different states of the resource pool.
scope	Array of **scope** objects	**Definition**: Status of the service type supported by the resource pool.
driver	**driver** object	**Definition**: Resource pool driver status.
parent	String	**Definition**: ID of the parent resource pool to which a resource pool belongs. The physical pool is empty. **Range**: N/A
root	String	**Definition**: ID of the root resource pool. **Range**: N/A
clusters	**clusters** object	Resource pool cluster information. This parameter is available only for privileged pools.

Table 9-208 resources

Parameter	Type	Description
creating	**PoolResourceFlavorCount** object	**Definition**: Resource information in creating states of the resource pool.
available	**PoolResourceFlavorCount** object	**Definition**: Resource information in available states of the resource pool.
abnormal	**PoolResourceFlavorCount** object	**Definition**: Resource information in abnormal states of the resource pool.
deleting	**PoolResourceFlavorCount** object	**Definition**: Resource information in deleting states of the resource pool.

Table 9-209 PoolResourceFlavorCount

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor ID. **Range**: N/A
count	Integer	**Definition**: Number of resource specification instances in a resource pool. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
maxCount	Integer	**Definition**: Number of elastic resource specification instances in a resource pool. The value of this parameter in a physical pool is the same as that of **count**. **Range**: N/A
azs	Array of **PoolNodeAz** objects	**Definition**: AZ distribution of the resource specification instances to be created in a resource pool.
nodePool	String	**Definition**: Node pool ID. **Range**: N/A

Table 9-210 PoolNodeAz

Parameter	Type	Description
az	String	**Definition**: AZ name. **Range**: N/A
count	Integer	**Definition**: Number of AZ resource instances. **Range**: N/A

Table 9-211 scope

Parameter	Type	Description
scopeType	String	**Definition**: Service type of the resource pool. **Range**: • **Train**: training jobs • **Infer**: inference jobs • **Notebook**: notebook jobs

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
state	String	**Definition**: Service type status of the resource pool. **Range**: • **Enabling**: The service is being enabled. • **Enabled**: The service has been enabled. • **Disabling**: The service is being disabled. • **Disabled**: The service has been disabled.

Table 9-212 driver

Parameter	Type	Description
gpu	**PoolDriverStatus** object	**Definition**: GPU driver status of a resource pool. **Range**: N/A
npu	**PoolDriverStatus** object	**Definition**: NPU driver status of a resource pool. **Range**: N/A

Table 9-213 PoolDriverStatus

Parameter	Type	Description
version	String	**Definition**: Current driver version of a resource pool. **Range**: N/A
state	String	**Definition**: Current driver status of a resource pool. **Range**: • **Creating**: The driver is being installed. • **Upgrading**: The driver is being upgraded. • **Running**: The driver is running. • **Abnormal**: The driver is abnormal.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-214 clusters

Parameter	Type	Description
name	String	Cluster name.
clusterFlavor	String	Cluster flavor of a standard pool.
type	String	Type of the resource pool cluster.
version	String	Cluster version.
plugins	**plugins** object	Name of the plugin supported by the cluster.

Table 9-215 plugins

Parameter	Type	Description
name	String	Name of the plugin supported by the cluster.

Status code: 404

Table 9-216 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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" : {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

9.15 Deleting a Resource Pool

Function

This API is used to delete a specified resource pool. This API is used when you need to delete a specified resource pool when the resource pool is no longer required, the configuration is incorrect, or resources need to be cleared. Before using this API, ensure that the resource pool exists and you have the administrator permissions. After the deletion, the specified resource pool is permanently removed, and related resources and configurations are cleared. If the resource pool does not exist, you do not have the operation permission, or the resource pool is depended on by other resources, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:pool:delete	Write	pool *	g:ResourceTag/<tag-key>	-	-
		-	g:EnterpriseProjectId		

URI

DELETE /v2/{project_id}/pools/{pool_name}

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-217 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Definition**: Resource pool name generated by the system. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

Table 9-218 Request header parameters

Parameter	Mandatory	Type	Description
X-ModelArts-User-ID	No	String	**Definition**: Tenant ID. If there is a tenant ID, it will be used for workspace authentication. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

Table 9-219 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version. **Range**: • **v2**
kind	String	**Definition**: Resource type. **Range**: • **Pool**: resource pool

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
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 9-220 PoolMetadataDeletion

Parameter	Type	Description
name	String	**Definition**: Automatically generated resource pool name, which is equivalent to **pool ID**. **Range**: N/A
creationTimestamp	String	**Definition**: Timestamp, for example, **2021-11-01T03:49:41Z**. **Range**: N/A
deletionTimestamp	String	**Definition**: Timestamp, for example, **2021-11-01T03:49:41Z**. **Range**: N/A
labels	**PoolMetaLabels** object	Resource pool labels.
annotations	**PoolMetaAnnotations** object	Resource pool annotations.

Table 9-221 PoolMetaLabels

Parameter	Type	Description
os.modelarts/name	String	**Definition**: Displayed name of a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/workspace.id	String	**Definition**: Workspace ID. [For details about how to obtain the ID, see **Querying the Workspace List**.] (tag:hc,hk) **Constraints**: N/A **Range**: N/A **Default Value**: **0**
os.modelarts/node.prefix	String	**Definition**: Custom node prefix. This parameter is optional. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/resource.id	String	**Definition**: Resource ID used for resource pool billing. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tenant.domain.id	String	**Definition**: ID of the tenant to which a resource pool belongs. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tenant.project.id	String	**Definition**: ID of the tenant project that a resource pool belongs to. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/enterprise.project.id	String	**Definition**: ID of the enterprise project that a resource pool belongs to. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/biz	String	**Definition**: Business type of a resource pool. The value can be **public** or **private**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/create-from	String	**Definition**: Source of a resource pool, for example, **admin-console**, indicating that the resource pool is created by the administrator on the ModelArts console. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/nobilling	String	**Definition**: Indicates whether the resource pool is charged. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/order.name	String	**Definition**: Last order job record associated with the resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/region	String	**Definition**: Region where the resource pool is located. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-222 PoolMetaAnnotations

Parameter	Type	Description
os.modelarts/description	String	**Definition**: Resource pool description. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/billing.mode	String	**Definition**: Billing mode. **Constraints**: N/A **Range**: • **0**: pay-per-use • **1**: yearly/monthly **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/period.num	String	**Definition**: Subscription period of a yearly/monthly resource pool. **Constraints**: This parameter is used together with the **os.modelarts/period.type** field. **Range**: N/A **Default Value**: N/A
os.modelarts/period.type	String	**Definition**: Subscription type of a yearly/monthly resource pool. **Constraints**: This parameter is used together with the **os.modelarts/period.num** field. **Range**: ● **2**: monthly ● **3**: yearly **Default Value**: N/A
os.modelarts/auto.renew	String	**Definition**: Auto-renewal status of a yearly/monthly resource pool. **Constraints**: N/A **Range**: ● **0**: Auto-renewal is disabled. ● **1**: Auto-renewal is enabled. **Default Value**: **0**
os.modelarts/promotion.info	String	**Definition**: Discount information selected when a yearly/monthly resource pool is purchased. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/service.console.url	String	**Definition**: URL to which you are redirected after the order of a yearly/monthly resource pool is paid. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/order.id	String	**Definition**: Order ID transferred when a yearly/monthly resource pool is purchased. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/flavor.resource.ids	String	**Definition**: Resource ID of the resource specifications in a yearly/monthly resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tms.tags	String	**Definition**: Resource tags of a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/scheduler.queue.strategy	String	**Definition**: Policy of the resource pool scheduling queue, which is used to define task scheduling rules. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/subpools.count	String	**Definition**: Number of logical subpools in a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tenant.domain.name	String	**Definition**: Tenant account of the resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/scope.external.dependency.train	String	**Definition**: External dependency ID of the training job. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-223 PoolSpecModel

Parameter	Type	Description
type	String	**Definition**: Resource pool type. **Constraints**: N/A **Range**: • **Dedicate**: physical resource pool, which uses a separate network and supports network connection, custom drivers, and custom job types. • **Logical**: logical resource pool. There is no independent network and network connectivity is not supported. Logical resource pools can be created and scaled faster than physical resource pools. **Default Value**: N/A
scope	Array of strings	**Definition**: Job types supported by a resource pool.
resources	Array of **resources** objects	**Definition**: Resource specifications in a resource pool, including resource specifications and the number of resources for each specification.
containernetwork	**containernetwork** object	Kubernetes container network.
network	**network** object	**Definition**: Network parameters of a resource pool.
jobFlavors	Array of strings	**Definition**: Job specifications supported by a resource pool. The value is the job specification name.
driver	**PoolDriver** object	**Definition**: Resource pool driver information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
controlMode	Integer	**Definition**: Restriction status of a resource pool. Multiple statuses are allowed. For example, **9** indicates that it is frozen and changing its billing mode to yearly/monthly is restricted. **Range**: • **0**: not restricted • **1**: Changing to the yearly/monthly billing is restricted. • **2**: Modifying specifications is restricted. • **4**: The service is restricted. • **8**: The resource pool is frozen. • **16**: The resource pool is frozen by the public security department (cannot be unsubscribed).

Table 9-224 resources

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor ID. **Range**: N/A
count	Integer	**Definition**: Number of resource specification instances in a resource pool. **Range**: N/A
maxCount	Integer	Elastic resource amount of the resource specifications. The value must be the same as that of **count** in the physical pool.
azs	Array of **PoolNodeAz** objects	**Definition**: AZ distribution of the resource specification instances to be created in a resource pool.
extendParams	**extendParams** object	**Definition**: Custom parameters of a resource pool.
os	**Os** object	**Definition**: OS image information of nodes in a resource pool.
dataVolumes	**dataVolumes** object	List of custom cloud data disks. The list cannot be modified after being specified.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
volumeGroupConfigs	**volumeGroupConfigs** object	Advanced disk configurations.

Table 9-225 extendParams

Parameter	Type	Description
dockerBaseSize	String	**Definition**: Container engine space of a node created in a resource pool. The value **0** indicates that the size is not limited. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
volumeGroup	String	Disk group name.
runtime	String	Model runtime environment.

Table 9-226 Os

Parameter	Type	Description
name	String	**Definition**: OS name and version, for example, EulorOS 2.5. This parameter can be left blank when a private image is specified. **Range**: N/A.
imageId	String	**Definition**: OS image ID. **Range**: N/A.
imageType	String	**Definition**: OS image type. This parameter must be specified when a private image is set. By default, the preset image is used. You do not need to specify this field. **Range**: • **private**: private images • "": The preset image is used.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
autoMatch	String	**Definition**: Automatic OS image matching configuration. If this parameter is set, the optimal image is automatically selected, and this parameter is automatically cleared. **Range**: OS name and version, for example, EulorOS 2.5.

Table 9-227 dataVolumes

Parameter	Type	Description
volumeType	String	Disk type.. Options: • **SSD**: ultra-high I/O disk • **GPSSD**: general-purpose SSD • **SAS**: high I/O disk
size	String	Disk size, in GiB.
count	String	Number of disks.
extendParams	**extendParams** object	Custom disk configuration.

Table 9-228 extendParams

Parameter	Type	Description
billing	String	Indicates whether the storage instance is billed. If this parameter is left blank, the storage instance is not billed. This field cannot be specified or modified by users.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
volumeGroup	String	Name of a disk group, which is used to divide storage space. Options: • **vgpaas**: container disk. • **default**: common data disk, which is mounted in default mode. • **vguser{num}**: common data disk, which is mounted to a specified path. The group name varies depending on the path, for example, **vguser1** and **vguser2**. • **vg-everest-localvolume-persistent**: common data disk, which is used as the persistent storage volume. • **vg-everest-localvolume-ephemeral**: common data disk, which is used as a temporary storage volume.

Table 9-229 volumeGroupConfigs

Parameter	Type	Description
volumeGroup	String	Disk group name. Index of the volume group in the dataVolumes.
dockerThinPool	Integer	Percentage of container disks to data disks on nodes in a resource pool. This parameter can be specified only when **volumeGroup** is **vgpaas** (container disk).
lvmConfig	**lvmConfig** object	LVM configuration management.

Table 9-230 lvmConfig

Parameter	Type	Description
lvType	String	LVM write mode. Options: • **linear**: linear mode. • **striped**: striped mode in which multiple disks are used to form a strip to improve disk performance.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-231 containernetwork

Parameter	Type	Description
mode	String	Container network model. Options: **overlay_l2**: an overlay_l2 network (container tunnel network) built for containers by using OpenVSwitch (OVS). • **vpc-router**: an underlay_l2 network built for containers by using IPvlan and custom VPC routes. • **eni**: Cloud Native Network 2.0. This model deeply integrates the native ENI capability of VPC, uses the VPC CIDR block to allocate container addresses, and supports passthrough networking. You can use this model when creating a CCE Turbo cluster.

Table 9-232 network

Parameter	Type	Description
name	String	**Definition**: Network ID. **Range**: N/A

Table 9-233 PoolDriver

Parameter	Type	Description
gpuVersion	String	**Definition**: Default GPU driver version of a resource pool. This parameter is only valid when the physical resource pool contains GPU specifications. **Range**: N/A
npuVersion	String	**Definition**: Default NPU driver version of a resource pool. This parameter is only valid when the physical resource pool contains NPU specifications. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
updateStrategy	String	**Definition**: Driver upgrade policy of a resource pool. **Range**: • **force**: forcible upgrade. The node drivers are upgraded immediately, which may affect jobs running on the node. • **idle**: secure upgrade. The drivers are upgraded when no job is running on the node.

Table 9-234 PoolStatus

Parameter	Type	Description
phase	String	**Definition**: Resource pool status. **Range**: • **Creating**: The resource pool is being created. • **Running**: The resource pool is running. • **Abnormal**: The resource pool is abnormal. • **Deleting**: The resource pool is being deleted. • **Error**: An error occurred in the resource pool.
message	String	**Definition**: Prompt information about the resource pool status. **Range**: N/A
resources	**resources** object	**Definition**: Resource information in different states of the resource pool.
scope	Array of **scope** objects	**Definition**: Status of the service type supported by the resource pool.
driver	**driver** object	**Definition**: Resource pool driver status.
parent	String	**Definition**: ID of the parent resource pool to which a resource pool belongs. The physical pool is empty. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
root	String	**Definition**: ID of the root resource pool. **Range**: N/A
clusters	**clusters** object	Resource pool cluster information. This parameter is available only for privileged pools.

Table 9-235 resources

Parameter	Type	Description
creating	**PoolResourceFlavorCount** object	**Definition**: Resource information in creating states of the resource pool.
available	**PoolResourceFlavorCount** object	**Definition**: Resource information in available states of the resource pool.
abnormal	**PoolResourceFlavorCount** object	**Definition**: Resource information in abnormal states of the resource pool.
deleting	**PoolResourceFlavorCount** object	**Definition**: Resource information in deleting states of the resource pool.

Table 9-236 PoolResourceFlavorCount

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor ID. **Range**: N/A
count	Integer	**Definition**: Number of resource specification instances in a resource pool. **Range**: N/A
maxCount	Integer	**Definition**: Number of elastic resource specification instances in a resource pool. The value of this parameter in a physical pool is the same as that of **count**. **Range**: N/A
azs	Array of **PoolNodeAz** objects	**Definition**: AZ distribution of the resource specification instances to be created in a resource pool.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
nodePool	String	**Definition**: Node pool ID. **Range**: N/A

Table 9-237 PoolNodeAz

Parameter	Type	Description
az	String	**Definition**: AZ name. **Range**: N/A
count	Integer	**Definition**: Number of AZ resource instances. **Range**: N/A

Table 9-238 scope

Parameter	Type	Description
scopeType	String	**Definition**: Service type of the resource pool. **Range**: • **Train**: training jobs • **Infer**: inference jobs • **Notebook**: notebook jobs
state	String	**Definition**: Service type status of the resource pool. **Range**: • **Enabling**: The service is being enabled. • **Enabled**: The service has been enabled. • **Disabling**: The service is being disabled. • **Disabled**: The service has been disabled.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-239 driver

Parameter	Type	Description
gpu	**PoolDriverStatus** object	**Definition**: GPU driver status of a resource pool. **Range**: N/A
npu	**PoolDriverStatus** object	**Definition**: NPU driver status of a resource pool. **Range**: N/A

Table 9-240 PoolDriverStatus

Parameter	Type	Description
version	String	**Definition**: Current driver version of a resource pool. **Range**: N/A
state	String	**Definition**: Current driver status of a resource pool. **Range**: • **Creating**: The driver is being installed. • **Upgrading**: The driver is being upgraded. • **Running**: The driver is running. • **Abnormal**: The driver is abnormal.

Table 9-241 clusters

Parameter	Type	Description
name	String	Cluster name.
clusterFlavor	String	Cluster flavor of a standard pool.
type	String	Type of the resource pool cluster.
version	String	Cluster version.
plugins	**plugins** object	Name of the plugin supported by the cluster.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-242 plugins

Parameter	Type	Description
name	String	Name of the plugin supported by the cluster.

Status code: 404

Table 9-243 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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" : {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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 the configuration and capacity of a specified resource pool. This API is used when you need to update the information about a resource pool when the resource pool capacity needs to be expanded, the configuration needs to be adjusted, or the performance needs to be optimized. Before using this API, ensure that the resource pool exists and you have the administrator permissions. After the update, the configuration and capacity of the resource pool will be updated, and the related resources and configurations will be adjusted. If

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

the resource pool does not exist, the user does not have the permission to perform the operation, or the resource pool cannot be updated, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:pool:update	Write	pool *	g:ResourceTag/<tag-key>	-	-
		-	g:EnterpriseProjectId		

URI

PATCH /v2/{project_id}/pools/{pool_name}

Table 9-244 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
pool_name	Yes	String	**Definition**: Resource pool name generated by the system. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

Table 9-245 Request header parameters

Parameter	Mandatory	Type	Description
X-ModelArts-User-ID	No	String	**Definition**: Tenant ID. If there is a tenant ID, it will be used for workspace authentication. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
Content-Type	Yes	String	Message body type (format). Options: • **application/merge-patch+json**

Table 9-246 Request body parameters

Parameter	Mandatory	Type	Description
metadata	No	**PoolMetadataUpdate** object	**Definition**: Resource pool metadata.
spec	No	**PoolSpecUpdate** object	**Definition**: Resource pool description.

Table 9-247 PoolMetadataUpdate

Parameter	Mandatory	Type	Description
annotations	No	**annotations** object	**Definition**: Comments of a resource pool.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-248 annotations

Parameter	Mandatory	Type	Description
os.modelarts/description	No	String	**Definition**: Description of a resource pool, specifying the application scenarios of the resource pool. The following special characters are not allowed: !<>=&"' **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/order.id	No	String	**Definition**: Order ID, which is required when you create or modify a yearly/monthly order. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-249 PoolSpecUpdate

Parameter	Mandatory	Type	Description
scope	No	Array of strings	**Definition**: Type of the job to be updated. **Constraints**: N/A **Range**: • **Train**: training job • **Infer**: inference job • **Notebook**: notebook job **Default Value**: N/A
resources	No	Array of **resources** objects	**Definition**: Updated resource flavors.
jobFlavors	No	Array of strings	**Definition**: Job flavors supported by a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
driver	No	**PoolDriver** object	**Definition**: Resource pool driver information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-250 resources

Parameter	Mandatory	Type	Description
flavor	Yes	String	**Definition**: Resource flavor. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
count	Yes	Integer	**Definition**: Number of resources of the flavor. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
azs	No	Array of **PoolNodeAz** objects	**Definition**: Updated AZs.

Table 9-251 PoolNodeAz

Parameter	Mandatory	Type	Description
az	Yes	String	**Definition**: AZ name. **Range**: N/A
count	Yes	Integer	**Definition**: Number of AZ resource instances. **Range**: N/A

Table 9-252 PoolDriver

Parameter	Mandatory	Type	Description
gpuVersion	No	String	**Definition**: Default GPU driver version of a resource pool. This parameter is only valid when the physical resource pool contains GPU specifications. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
npuVersion	No	String	**Definition**: Default NPU driver version of a resource pool. This parameter is only valid when the physical resource pool contains NPU specifications. **Range**: N/A
updateStrategy	No	String	**Definition**: Driver upgrade policy of a resource pool. **Range**: • **force**: forcible upgrade. The node drivers are upgraded immediately, which may affect jobs running on the node. • **idle**: secure upgrade. The drivers are upgraded when no job is running on the node.

Response Parameters

Status code: 200

Table 9-253 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource. **Range**: • **v2**: The current resource version is v2.
kind	String	**Definition**: Resource type. **Range**: • **Pool**: resource pool
metadata	**PoolMetadata** object	**Definition**: Metadata of the resource pool.
spec	**PoolSpecModel** object	**Definition**: Specifications of a resource pool.
status	**PoolStatus** object	**Definition**: Status of a resource pool.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-254 PoolMetadata

Parameter	Type	Description
name	String	**Definition**: Resource pool ID. **Range**: N/A
creationTimestamp	String	**Definition**: Time when a resource pool is created. For example, **2025-11-01T03:49:41Z**. **Range**: N/A
labels	**PoolMetaLabels** object	**Definition**: Tags of a resource pool.
annotations	**PoolMetaAnnotations** object	**Definition**: Comments of a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-255 PoolMetaLabels

Parameter	Type	Description
os.modelarts/name	String	**Definition**: Displayed name of a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/workspace.id	String	**Definition**: Workspace ID. [For details about how to obtain the ID, see **Querying the Workspace List**.] (tag:hc,hk) **Constraints**: N/A **Range**: N/A **Default Value**: **0**
os.modelarts/node.prefix	String	**Definition**: Custom node prefix. This parameter is optional. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/resource.id	String	**Definition**: Resource ID used for resource pool billing. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tenant.domain.id	String	**Definition**: ID of the tenant to which a resource pool belongs. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tenant.project.id	String	**Definition**: ID of the tenant project that a resource pool belongs to. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/enterprise.project.id	String	**Definition**: ID of the enterprise project that a resource pool belongs to. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/biz	String	**Definition**: Business type of a resource pool. The value can be **public** or **private**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/create-from	String	**Definition**: Source of a resource pool, for example, **admin-console**, indicating that the resource pool is created by the administrator on the ModelArts console. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/nobilling	String	**Definition**: Indicates whether the resource pool is charged. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/order.name	String	**Definition**: Last order job record associated with the resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/region	String	**Definition**: Region where the resource pool is located. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-256 PoolMetaAnnotations

Parameter	Type	Description
os.modelarts/description	String	**Definition**: Resource pool description. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/billing.mode	String	**Definition**: Billing mode. **Constraints**: N/A **Range**: • **0**: pay-per-use • **1**: yearly/monthly **Default Value**: N/A
os.modelarts/period.num	String	**Definition**: Subscription period of a yearly/monthly resource pool. **Constraints**: This parameter is used together with the **os.modelarts/period.type** field. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/period.type	String	**Definition**: Subscription type of a yearly/monthly resource pool. **Constraints**: This parameter is used together with the **os.modelarts/period.num** field. **Range**: • **2**: monthly • **3**: yearly **Default Value**: N/A
os.modelarts/auto.renew	String	**Definition**: Auto-renewal status of a yearly/monthly resource pool. **Constraints**: N/A **Range**: • **0**: Auto-renewal is disabled. • **1**: Auto-renewal is enabled. **Default Value**: **0**
os.modelarts/promotion.info	String	**Definition**: Discount information selected when a yearly/monthly resource pool is purchased. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/service.console.url	String	**Definition**: URL to which you are redirected after the order of a yearly/monthly resource pool is paid. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/order.id	String	**Definition**: Order ID transferred when a yearly/monthly resource pool is purchased. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/flavor.resource.ids	String	**Definition**: Resource ID of the resource specifications in a yearly/monthly resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/tms.tags	String	**Definition**: Resource tags of a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/scheduler.queue.strategy	String	**Definition**: Policy of the resource pool scheduling queue, which is used to define task scheduling rules. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/subpools.count	String	**Definition**: Number of logical subpools in a resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/tenant.domain.name	String	**Definition**: Tenant account of the resource pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts.pool/scope.external.dependency.train	String	**Definition**: External dependency ID of the training job. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-257 PoolSpecModel

Parameter	Type	Description
type	String	**Definition**: Resource pool type. **Constraints**: N/A **Range**: • **Dedicate**: physical resource pool, which uses a separate network and supports network connection, custom drivers, and custom job types. • **Logical**: logical resource pool. There is no independent network and network connectivity is not supported. Logical resource pools can be created and scaled faster than physical resource pools. **Default Value**: N/A
scope	Array of strings	**Definition**: Job types supported by a resource pool.
resources	Array of **resources** objects	**Definition**: Resource specifications in a resource pool, including resource specifications and the number of resources for each specification.
containernetwork	**containernetwork** object	Kubernetes container network.
network	**network** object	**Definition**: Network parameters of a resource pool.
jobFlavors	Array of strings	**Definition**: Job specifications supported by a resource pool. The value is the job specification name.
driver	**PoolDriver** object	**Definition**: Resource pool driver information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
controlMode	Integer	**Definition**: Restriction status of a resource pool. Multiple statuses are allowed. For example, **9** indicates that it is frozen and changing its billing mode to yearly/monthly is restricted. **Range**: • **0**: not restricted • **1**: Changing to the yearly/monthly billing is restricted. • **2**: Modifying specifications is restricted. • **4**: The service is restricted. • **8**: The resource pool is frozen. • **16**: The resource pool is frozen by the public security department (cannot be unsubscribed).

Table 9-258 resources

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor ID. **Range**: N/A
count	Integer	**Definition**: Number of resource specification instances in a resource pool. **Range**: N/A
maxCount	Integer	Elastic resource amount of the resource specifications. The value must be the same as that of **count** in the physical pool.
azs	Array of **PoolNodeAz** objects	**Definition**: AZ distribution of the resource specification instances to be created in a resource pool.
extendParams	**extendParams** object	**Definition**: Custom parameters of a resource pool.
os	**Os** object	**Definition**: OS image information of nodes in a resource pool.
dataVolumes	**dataVolumes** object	List of custom cloud data disks. The list cannot be modified after being specified.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
volumeGroupConfigs	**volumeGroupConfigs** object	Advanced disk configurations.

Table 9-259 extendParams

Parameter	Type	Description
dockerBaseSize	String	**Definition**: Container engine space of a node created in a resource pool. The value **0** indicates that the size is not limited. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
volumeGroup	String	Disk group name.
runtime	String	Model runtime environment.

Table 9-260 Os

Parameter	Type	Description
name	String	**Definition**: OS name and version, for example, EulorOS 2.5. This parameter can be left blank when a private image is specified. **Range**: N/A.
imageId	String	**Definition**: OS image ID. **Range**: N/A.
imageType	String	**Definition**: OS image type. This parameter must be specified when a private image is set. By default, the preset image is used. You do not need to specify this field. **Range**: • **private**: private images • "": The preset image is used.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
autoMatch	String	**Definition**: Automatic OS image matching configuration. If this parameter is set, the optimal image is automatically selected, and this parameter is automatically cleared. **Range**: OS name and version, for example, EulorOS 2.5.

Table 9-261 dataVolumes

Parameter	Type	Description
volumeType	String	Disk type.. Options: • **SSD**: ultra-high I/O disk • **GPSSD**: general-purpose SSD • **SAS**: high I/O disk
size	String	Disk size, in GiB.
count	String	Number of disks.
extendParams	**extendParams** object	Custom disk configuration.

Table 9-262 extendParams

Parameter	Type	Description
billing	String	Indicates whether the storage instance is billed. If this parameter is left blank, the storage instance is not billed. This field cannot be specified or modified by users.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
volumeGroup	String	Name of a disk group, which is used to divide storage space. Options: • **vgpaas**: container disk. • **default**: common data disk, which is mounted in default mode. • **vguser{num}**: common data disk, which is mounted to a specified path. The group name varies depending on the path, for example, **vguser1** and **vguser2**. • **vg-everest-localvolume-persistent**: common data disk, which is used as the persistent storage volume. • **vg-everest-localvolume-ephemeral**: common data disk, which is used as a temporary storage volume.

Table 9-263 volumeGroupConfigs

Parameter	Type	Description
volumeGroup	String	Disk group name. Index of the volume group in the dataVolumes.
dockerThinPool	Integer	Percentage of container disks to data disks on nodes in a resource pool. This parameter can be specified only when **volumeGroup** is **vgpaas** (container disk).
lvmConfig	**lvmConfig** object	LVM configuration management.

Table 9-264 lvmConfig

Parameter	Type	Description
lvType	String	LVM write mode. Options: • **linear**: linear mode. • **striped**: striped mode in which multiple disks are used to form a strip to improve disk performance.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-265 containernetwork

Parameter	Type	Description
mode	String	Container network model. Options: **overlay_l2**: an overlay_l2 network (container tunnel network) built for containers by using OpenVSwitch (OVS). • **vpc-router**: an underlay_l2 network built for containers by using IPvlan and custom VPC routes. • **eni**: Cloud Native Network 2.0. This model deeply integrates the native ENI capability of VPC, uses the VPC CIDR block to allocate container addresses, and supports passthrough networking. You can use this model when creating a CCE Turbo cluster.

Table 9-266 network

Parameter	Type	Description
name	String	**Definition**: Network ID. **Range**: N/A

Table 9-267 PoolDriver

Parameter	Type	Description
gpuVersion	String	**Definition**: Default GPU driver version of a resource pool. This parameter is only valid when the physical resource pool contains GPU specifications. **Range**: N/A
npuVersion	String	**Definition**: Default NPU driver version of a resource pool. This parameter is only valid when the physical resource pool contains NPU specifications. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
updateStrategy	String	**Definition**: Driver upgrade policy of a resource pool. **Range**: • **force**: forcible upgrade. The node drivers are upgraded immediately, which may affect jobs running on the node. • **idle**: secure upgrade. The drivers are upgraded when no job is running on the node.

Table 9-268 PoolStatus

Parameter	Type	Description
phase	String	**Definition**: Resource pool status. **Range**: • **Creating**: The resource pool is being created. • **Running**: The resource pool is running. • **Abnormal**: The resource pool is abnormal. • **Deleting**: The resource pool is being deleted. • **Error**: An error occurred in the resource pool.
message	String	**Definition**: Prompt information about the resource pool status. **Range**: N/A
resources	**resources** object	**Definition**: Resource information in different states of the resource pool.
scope	Array of **scope** objects	**Definition**: Status of the service type supported by the resource pool.
driver	**driver** object	**Definition**: Resource pool driver status.
parent	String	**Definition**: ID of the parent resource pool to which a resource pool belongs. The physical pool is empty. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
root	String	**Definition**: ID of the root resource pool. **Range**: N/A
clusters	**clusters** object	Resource pool cluster information. This parameter is available only for privileged pools.

Table 9-269 resources

Parameter	Type	Description
creating	**PoolResourceFlavorCount** object	**Definition**: Resource information in creating states of the resource pool.
available	**PoolResourceFlavorCount** object	**Definition**: Resource information in available states of the resource pool.
abnormal	**PoolResourceFlavorCount** object	**Definition**: Resource information in abnormal states of the resource pool.
deleting	**PoolResourceFlavorCount** object	**Definition**: Resource information in deleting states of the resource pool.

Table 9-270 PoolResourceFlavorCount

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor ID. **Range**: N/A
count	Integer	**Definition**: Number of resource specification instances in a resource pool. **Range**: N/A
maxCount	Integer	**Definition**: Number of elastic resource specification instances in a resource pool. The value of this parameter in a physical pool is the same as that of **count**. **Range**: N/A
azs	Array of **PoolNodeAz** objects	**Definition**: AZ distribution of the resource specification instances to be created in a resource pool.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
nodePool	String	**Definition**: Node pool ID. **Range**: N/A

Table 9-271 PoolNodeAz

Parameter	Type	Description
az	String	**Definition**: AZ name. **Range**: N/A
count	Integer	**Definition**: Number of AZ resource instances. **Range**: N/A

Table 9-272 scope

Parameter	Type	Description
scopeType	String	**Definition**: Service type of the resource pool. **Range**: • **Train**: training jobs • **Infer**: inference jobs • **Notebook**: notebook jobs
state	String	**Definition**: Service type status of the resource pool. **Range**: • **Enabling**: The service is being enabled. • **Enabled**: The service has been enabled. • **Disabling**: The service is being disabled. • **Disabled**: The service has been disabled.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-273 driver

Parameter	Type	Description
gpu	**PoolDriverStatus** object	**Definition**: GPU driver status of a resource pool. **Range**: N/A
npu	**PoolDriverStatus** object	**Definition**: NPU driver status of a resource pool. **Range**: N/A

Table 9-274 PoolDriverStatus

Parameter	Type	Description
version	String	**Definition**: Current driver version of a resource pool. **Range**: N/A
state	String	**Definition**: Current driver status of a resource pool. **Range**: • **Creating**: The driver is being installed. • **Upgrading**: The driver is being upgraded. • **Running**: The driver is running. • **Abnormal**: The driver is abnormal.

Table 9-275 clusters

Parameter	Type	Description
name	String	Cluster name.
clusterFlavor	String	Cluster flavor of a standard pool.
type	String	Type of the resource pool cluster.
version	String	Cluster version.
plugins	**plugins** object	Name of the plugin supported by the cluster.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-276 plugins

Parameter	Type	Description
name	String	Name of the plugin supported by the cluster.

Status code: 400

Table 9-277 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 9-278 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
  "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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
  "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 real-time or historical monitoring information about a specified resource pool. This API is used when you need to obtain the monitoring data of a resource pool in real time, such as resource usage, performance status, or historical data. Before using this API, ensure that the resource pool exists and you have the administrator permissions. After the API is called, the system returns the monitoring information of the resource pool, including the resource usage, performance metrics, and historical trends. If the resource pool does not exist, the user does not have the permission to perform the operation, or the resource pool is unavailable, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:pool:get	Read	pool *	g:ResourceTag/<tag-key>	-	-
		-	g:EnterpriseProjectId		

URI

GET /v2/{project_id}/pools/{pool_name}/monitor

Table 9-279 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Definition**: Resource pool ID. The value is obtained from the **metadata.name** field in the resource pool details. **Constraints**: N/A **Range*: The value can contain 36 to 63 characters. It must start with a lowercase letter and cannot end with a hyphen (-). Digits and hyphens (-) are allowed. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-280 Query Parameters

Parameter	Mandatory	Type	Description
time_range	No	String	**Definition**: Time range for obtaining the monitored information of a resource pool, in the format of *startTimeInMillis.endTimeInMillis.durationInMinutes* Specifically, *startTimeInMillis* indicates start time (UTC) of the query, in milliseconds. If this parameter is set to **-1**, the server calculates the start time as follows: *endTimeInMillis* – *durationInMinutes* × 60 × 1000. *endTimeInMillis* indicates end time (UTC) of the query, in milliseconds. If this parameter is set to **-1**, the server calculates the end time as follows: *startTimeInMillis* + *durationInMinutes* × 60 × 1000. If the calculated end time is later than the current system time, the current system time is used. *durationInMinutes* indicates the query time span, in minutes. The value must be greater than **0**, and also greater than or equal to the result of "(*endTimeInMillis* – *startTimeInMillis*)/(60 × 1000) – 1". If both the start time and end time are set to **-1**, the system sets the end time to the current UTC time (in milliseconds) and calculates the start time as follows: *endTimeInMillis* – *durationInMinutes* × 60 × 1000. For example, **-1.-1.60** indicates the latest 60 minutes. **Constraints**: In a single request, the following condition must be met: *durationInMinutes* × 60/period ≤ 1,440 **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			Default Value: **-1.-1.60** Query time range. The default value is **-1.-1.60**. The format is *startTimeInMillis.endTimeInMillis.durationInMinutes*. Details about the parameter are as follows: • **startTimeInMillis**: Start time (UTC) of the query, in milliseconds. If this parameter is set to **-1**, the server calculates the start time as follows: *endTimeInMillis* – *durationInMinutes* × 60 × 1000. • **endTimeInMillis**: End time (UTC) of the query, in milliseconds. If this parameter is set to **-1**, the server calculates the end time as follows: *startTimeInMillis* + *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. The value must be greater than **0**, and also greater than or equal to the result of "(*endTimeInMillis* – *startTimeInMillis*)/(60 × 1000) – 1". If both the start time and end time are set to **-1**, the system sets the end time to the current UTC time (in milliseconds) and calculates the start time as follows: *endTimeInMillis* – *durationInMinutes* × 60 × 1000. For example, **-1.-1.60** indicates the latest 60 minutes. Constraint: In a single request, the following condition must be met:

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			durationInMinutes × 60/period ≤ 1440
statistics	No	String	**Definition**: Statistical method of resource pool monitoring information at a specified time granularity **Constraints**: N/A **Range**: The options are as follows: • **maximum**: maximum value statistics (default setting) • **minimum**: minimum value statistics • **sum**: sum statistics • **average**: average value statistics • **sampleCount**: sampling statistics **Default Value**: **maximum**
period	No	String	**Definition**: Time granularity for obtaining the monitored information of a resource pool, in seconds **Constraints**: N/A **Range**: The options are as follows: • **60**: The granularity is 1 minute, which is the default value. • **300**: The granularity is 5 minutes. • **900**: The granularity is 15 minutes. • **3600**: The granularity is 1 hour. **Default Value**: **60**

Request Parameters

None

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 9-281 Response body parameters

Parameter	Type	Description
metrics	Array of **metrics** objects	**Definition**: Monitoring metric data of a resource pool.

Table 9-282 metrics

Parameter	Type	Description
metric	**metric** object	**Definition**: Metric description.
dataPoints	Array of **dataPoints** objects	**Definition**: Monitoring metric data.

Table 9-283 metric

Parameter	Type	Description
dimensions	Array of **dimensions** objects	**Definition**: Metric dimension information.
metricName	String	**Definition**: Metric name. **Range**: • **cpuUsage**: CPU usage • **memUsedRate**: memory usage • **gpuUtil**: GPU usage • **gpuMemUsage**: used GPU memory • **npuUtil**: NPU usage • **npuMemUsage**: used NPU memory • **diskCapacity**: disk capacity • **diskAvailableCapacity**: available disk capacity • **diskUsedRate**: disk usage

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
namespace	String	**Definition**: Metric namespace. **Range**: • **PAAS.CONTAINER**: namespace of component, instance, process, and container metrics • **PAAS.NODE**: namespace of host, network, disk, and file system metrics • **PAAS.SLA**: namespace of SLA metrics • **PAAS.AGGR**: namespace of cluster metrics • **CUSTOMMETRICS**: default namespace of custom metrics

Table 9-284 dimensions

Parameter	Type	Description
name	String	**Definition**: Metric dimension name. **Range**: metric name. Options: • **clusterId**: cluster ID
value	String	**Definition**: Metric dimension value. **Range**: N/A

Table 9-285 dataPoints

Parameter	Type	Description
timestamp	Integer	**Definition**: Metric data timestamp, in ms. **Range**: N/A
unit	String	**Definition**: Metric data unit. **Range**: • **Percent**: percentage • **Megabytes**: MB
statistics	Array of **statistics** objects	**Definition**: Metric data value.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-286 statistics

Parameter	Type	Description
statistic	String	**Definition**: Statistical method of resource pool monitoring information at a specified time granularity. **Range**: • **maximum**: maximum value (default setting) • **minimum**: minimum value • **sum**: sum • **average**: average value • **sampleCount**: sampling statistics
value	Float	**Definition**: Metric value. The value **-1** indicates that no metric data is available. **Range**: N/A

Status code: 404

Table 9-287 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
      "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
    } ]
  } ]
}, {
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "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 the statistics of a specified resource pool. This API is used when you need to obtain the resource usage, allocation, or usage of a resource pool. Before using this API, ensure that the resource pool exists and you have the administrator permissions. After the API is called, the system returns the statistics of the resource pool, including the total resource usage, allocated resources, usage, and resource allocation trend. If the resource pool does not exist, the user does not have the permission to perform the operation, or the resource pool is unavailable, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:pool:list	List	pool *	-	-	-
		-	• g:EnterpriseProjectId • g:RequestTag/<tag-key> • g:TagKeys		

URI

GET /v2/{project_id}/statistics/pools

Table 9-288 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-289 Query Parameters

Parameter	Mandatory	Type	Description
workspaceId	No	String	**Definition**: Workspace. The default value is **0**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 9-290 Response body parameters

Parameter	Type	Description
statistics	**statistics** object	**Definition**: Resource pool statistics.
operationTime	String	**Definition**: Time when the statistics are collected. **Range**: N/A

Table 9-291 statistics

Parameter	Type	Description
status	**status** object	**Definition**: Statistics about resource pools in different statuses.

Table 9-292 status

Parameter	Type	Description
creating	Integer	**Definition**: Statistics about resource pools that are being created. **Range**: N/A
created	Integer	**Definition**: Number of resource pools that are successfully created. **Range**: N/A
failed	Integer	**Definition**: Number of resource pools that failed to be created in the last three days. The maximum value is **500**. **Range**: N/A
pending	Integer	**Definition**: Number of resource pools in the waiting status, usually yearly/monthly pools that have not been paid. **Range**: N/A

Status code: 500

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-293 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

9.19 Obtaining Resource Specifications

Function

This API is used to obtain available resource specifications. This API is used when you need to view or select resource specifications to create resource pools, allocate resources, or learn available resource specifications. Before using this API, ensure that you have the required permissions (such as administrator permissions or resource management permissions). After the API is called, the system returns the resource specifications, including the specification ID, name, number of CPUs, memory size, and storage capacity. If you do not have the required permission or the resource specifications are not configured, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/resourceflavors

Table 9-294 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-295 Query Parameters

Parameter	Mandatory	Type	Description
continue	No	String	**Definition**: Offset parameter of the pagination query **Constraints**: N/A **Range**: The value is obtained from the **metadata.continue** field in the response to the last pagination query. An empty value indicates no offset. **Default Value**: N/A
limit	No	Integer	**Definition**: Number of resources returned in a single pagination query **Constraints**: N/A **Range**: 0 to 500 **Default Value**: **500**
labelSelector	No	String	**Definition**: Tag filtering query **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 9-296 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version of a resource. **Range**: • **v1**: The current resource version is v1.
kind	String	**Definition**: Resource type. **Range**: • **ResourceFlavorList**: resource flavors

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
metadata	**metadata** object	**Definition**: Metadata of a resource flavor list.
items	Array of **ResourceFlavor** objects	**Definition**: Resource flavor list. **Range**: N/A

Table 9-297 metadata

Parameter	Type	Description
continue	String	**Definition**: Offset parameter of the pagination query. **Range**: The value is obtained from the **metadata.continue** field in the response to the last pagination query. An empty value indicates no offset.
remainingItemCount	Integer	**Definition**: Number of remaining resources in a pagination query. **Default Value**: N/A

Table 9-298 ResourceFlavor

Parameter	Type	Description
apiVersion	String	**Definition**: API version of a resource. **Range**: • **v1**: The current resource version is v1.
kind	String	**Definition**: Resource type. **Range**: • **ResourceFlavor**: resource flavor
metadata	**metadata** object	**Definition**: Metadata of a resource flavor.
spec	**ResourceFlavorSpec** object	**Definition**: Specifications of a resource flavor.
status	**ResourceFlavorStatus** object	**Definition**: Status of a resource flavor.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-299 metadata

Parameter	Type	Description
name	String	**Definition**: Resource flavor ID. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
labels	**ResourceFlavorLabel** object	**Definition**: Tags of a resource flavor.
annotations	**ResourceFlavorAnnotation** object	**Definition**: Comments of a resource flavor.

Table 9-300 ResourceFlavorLabel

Parameter	Type	Description
os.modelarts/scope	String	**Definition**: Job types supported by the resource flavor. Use periods (.) to separate multiple job types. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 9-301 ResourceFlavorAnnotation

Parameter	Type	Description
os.modelarts.flavor/image.filter	String	**Definition**: Filter criteria of private images supported by the resource flavor. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-302 ResourceFlavorSpec

Parameter	Type	Description
type	String	**Definition**: Resource flavor type. **Range**: • **Dedicate**: physical resource flavor Physical resource flavors can be used to create node resources. [- **Logical**: logical resource flavor] (tag:hcso)
cpuArch	String	**Definition**: Compute architecture of a resource flavor. **Range**: • **x86**: x86 architecture • **arm64**: Arm architecture
cpu	String	**Definition**: Number of CPU cores of a resource flavor. **Range**: N/A
memory	String	**Definition**: Memory size of a resource flavor, in GiB. **Range**: N/A
gpu	**gpu** object	**Definition**: GPU resource information of a resource flavor.
npu	**npu** object	**Definition**: NPU information of a resource flavor. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
dataVolume	Array of **dataVolume** objects	**Definition**: Storage resource information of a resource flavor.
billingModes	Array of integers	**Definition**: Billing mode supported by a resource flavor.
billingCode	String	**Definition**: Billing code of a resource flavor. **Range**: N/A
jobFlavors	Array of strings	**Definition**: List of job types supported by a resource flavor.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-303 gpu

Parameter	Type	Description
type	String	**Definition**: Type of GPUs of a resource flavor. **Range**: N/A
size	String	**Definition**: Number of GPUs of a resource flavor. **Range**: N/A

Table 9-304 npu

Parameter	Type	Description
type	String	**Definition**: Type of NPUs of a resource flavor. **Range**: N/A
size	String	**Definition**: Number of NPUs of a resource flavor. **Range**: N/A

Table 9-305 dataVolume

Parameter	Type	Description
volumeType	String	**Definition**: Disk type. **Range**: • **SSD**: ultra-high I/O disk • **GPSSD**: general-purpose SSD • **SAS**: high I/O disk
size	String	**Definition**: Disk size, in GiB. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-306 ResourceFlavorStatus

Parameter	Type	Description
phase	Map<String,String>	**Definition**: Capacity status of a resource flavor. The value is in the key-value pair format. The key is the AZ code, and the value is the resource status of the AZ. The options are as follows: • **normal**: normal • **soldout**

Status code: 401

Table 9-307 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 9-308 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

This API is used to obtain resource specifications.

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

{ }
```

Example Responses

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

9.20 Obtain Jobs in a Resource Pool

Function

This API is used to obtain the job list in a specified dedicated resource pool. This API is used when you need to obtain details about a dedicated resource pool, such as resource usage, job status, or resource allocation. Before using this API, ensure that the dedicated resource pool exists and you have the required permissions (such as administrator permissions or resource management permissions). After the API is called, the system returns the job list of the dedicated resource pool, including the job ID, name, status, and resource usage. If the dedicated resource pool does not exist, the user does not have the operation permission, or the resource pool is unavailable, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:pool:get	Read	pool *	g:ResourceTag/<tag-key>	-	-
		-	g:EnterpriseProjectId		

URI

GET /v2/{project_id}/pools/{pool_name}/workloads

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-309 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Definition**: Resource pool ID. The value is obtained from the **metadata.name** field in the resource pool details. **Constraints**: N/A **Range*: The value can contain 36 to 63 characters. It must start with a lowercase letter and cannot end with a hyphen (-). Digits and hyphens (-) are allowed. **Default Value**: N/A

Table 9-310 Query Parameters

Parameter	Mandatory	Type	Description
type	No	String	**Definition**: Job types based on which the resource pool job list is queried **Constraints**: N/A **Range**: The options are as follows: • **train**: training job • **infer**: inference service • **notebook**: notebook job • **x-infer**: new inference job **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
status	No	String	**Definition**: Job statuses based on which the resource pool job list is queried **Constraints**: N/A **Range**: The options are as follows: • **Queue**: jobs in the queue • **Pending**: pending jobs • **Abnormal**: abnormal jobs • **Terminating**: jobs being terminated • **Creating**: jobs being created • **Running**: running jobs • **Completed**: completed jobs • **Terminated**: terminated jobs • **Failed**: jobs that fail to be executed **Default Value**: N/A
sort	No	String	**Definition**: Sorting criteria for querying jobs in a resource pool **Constraints**: N/A **Range**: The options are as follows: • **create_time**: Sort jobs by creation time. **Default Value**: N/A
ascend	No	Boolean	**Definition**: Whether jobs in a resource pool to be queried are sorted in ascending order **Constraints**: This parameter must be used with the sort query parameter. **Range**: The options are as follows: • **true**: in ascending order • **false**: in descending order **Default Value**: **false**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
offset	No	String	**Definition**: Offset of pagination query **Constraints**: N/A **Range**: 0 to 2147483647 **Default Value**: **0**
limit	No	Integer	**Definition**: Number of resources returned in a single pagination query **Constraints**: N/A **Range**: 0 to 500 **Default Value**: **500**

Request Parameters

None

Response Parameters

Status code: 200

Table 9-311 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource **Range**: The options are as follows: • **v1**: The current resource version is v1.
kind	String	**Definition**: Resource type **Range**: The options are as follows: • **WorkloadList**: Job list
items	Array of **Workload** objects	**Definition**: Job list in the resource pool.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-312 Workload

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource **Range**: The options are as follows: • **v1**: The current resource version is v1.
kind	String	**Definition**: Resource type **Range**: The options are as follows: • **Workload**: Resource pool job
type	String	**Definition**: Service type of a job in the resource pool **Range**: The options are as follows: • **train**: training job • **infer**: inference service • **notebook**: notebook job
namespace	String	**Definition**: Namespace to which a job in a cluster belongs **Range**: N/A
name	String	**Definition**: Job name **Range**: N/A
jobName	String	**Definition**: Name of the upper-layer service to which a job belongs **Range**: N/A
uid	String	**Definition**: Job ID **Range**: N/A
jobUUID	String	**Definition**: ID of the upper-layer service to which a job belongs **Range**: N/A
flavor	String	**Definition**: Resource specifications of a job **Range**: N/A
status	String	**Definition**: Job status. **Range**: N/A
resourceRequirement	**resourceRequirement** object	**Definition**: Resource volume requested for job running.
priority	String	**Definition**: Job priority **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
runningDuration	Integer	**Definition**: Duration of job running, in seconds **Range**: N/A
pendingDuration	Integer	**Definition**: Queue time of a job, in seconds **Range**: N/A
pendingPosition	Integer	**Definition**: Position of a job in the queue **Range**: N/A
createTime	Integer	**Definition**: Unix timestamp of the job creation, in milliseconds **Range**: N/A
gvk	String	**Definition**: Kubernetes resource type, group, and version of a job **Range**: N/A
hostIps	String	**Definition**: IP addresses of the nodes where a job is running. The values are separated with commas (,). **Range**: N/A
nodes	Array of **WorkloadNodeVO** objects	**Definition**: Node resource information occupied by a running job.

Table 9-313 resourceRequirement

Parameter	Type	Description
cpu	String	**Definition**: CPU resources used for job running **Range**: N/A
memory	String	**Definition**: Memory resources used for job running **Range**: N/A
nvidia.com/gpu	String	**Definition**: GPU resources used for job running **Range**: N/A
huawei.com/ascend-snt3	String	**Definition**: snt3 NPU resources used for job running **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
huawei.com/ascend-snt9	String	**Definition**: snt9 NPU resources used for job running **Range**: N/A

Table 9-314 WorkloadNodeVO

Parameter	Type	Description
hostIp	String	**Definition**: IP address of the node where a job runs **Range**: N/A
npuTopologyPlacement	String	**Definition**: Topology of the NPU card resource usage. The value is a 16-bit binary number, where the first bit from the right indicates card 1. 1 indicates occupied, and 0 indicates idle. For example, if cards 1 and 15 are occupied in a 16-card model, the value is **0100000000000001**. If cards 1 and 7 are occupied in an 8-card model, the returned value is **0000000001000001**. **Range**: N/A
resourceRequirement	**ResourceRequirementVO** object	**Definition**: Resources used for job running.

Table 9-315 ResourceRequirementVO

Parameter	Type	Description
cpu	String	**Definition**: CPU resources used for job running. **Range**: N/A
memory	String	**Definition**: Memory resources used for job running. **Range**: N/A
nvidia.com/gpu	String	**Definition**: GPU resources used for job running. **Range**: N/A
huawei.com/ascend-310	String	**Definition**: snt3 NPU resources used for job running. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
huawei.com/ascend-1980	String	**Definition**: snt9 NPU resources used for job running. **Range**: N/A

Status code: 400

Table 9-316 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 9-317 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

```
GET https://{endpoint}/v2/{project_id}/pools/{pool_name}/workloads
```

Example Responses

Status code: 200

OK.

```
{
  "kind" : "WorkloadList",
  "apiVersion" : "v1",
  "items" : [ {
    "kind" : "Workload",
    "apiVersion" : "v1",
    "uid" : "837ad51b-7c39-41f7-82e9-ea904cbb8ed6",
    "jobUUID" : "19d05662-0f87-43c7-8426-1ccf4b30179b",
    "name" : "ma-job-19d05662-0f87-43c7-8426-1ccf4b30179b",
    "jobName" : "DI-job-202412022313-hlyh5",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "type" : "train",
  "namespace" : "os-pool-train-dSnt9b-memarts1-1ccf4b30179b",
  "status" : "Running",
  "resourceRequirement" : {
    "cpu" : "360 Cores",
    "memory" : "2.36 TiB"
  },
  "priority" : "1",
  "createTime" : 1733152598000,
  "runningDuration" : 1857065,
  "pendingPosition" : -1,
  "gvk" : "batch.volcano.sh/v1alpha1, Kind=Job",
  "hostIps" : "192.168.81.93,192.168.73.217",
  "nodes" : [ {
    "hostIp" : "192.168.81.93",
    "npuTopologyPlacement" : "0x00ff",
    "resourceRequirement" : {
      "cpu" : "180 Cores",
      "memory" : "1.18 TiB",
      "huawei.com/ascend-1980" : "8"
    }
  }, {
    "hostIp" : "192.168.73.217",
    "npuTopologyPlacement" : "0x00ff",
    "resourceRequirement" : {
      "cpu" : "180 Cores",
      "memory" : "1.18 TiB",
      "huawei.com/ascend-1980" : "8"
    }
  } ]
 } ]
}
```


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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

9.21 Querying dedicated resource pool Job Statistics

Function

This API is used to obtain job statistics of a dedicated resource pool. This API is used when you need to obtain the job running information, resource usage, or job status distribution of a dedicated resource pool. Before using this API, ensure that the dedicated resource pool exists and you have the required permissions (such as administrator permissions or resource management permissions). After the API is called, the system returns the job statistics of the dedicated resource pool, including the total number of jobs, number of running jobs, number of completed jobs, and resource usage. If the dedicated resource pool does not exist, the user does not have the operation permission, or the resource pool is unavailable, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:pool:get	Read	pool *	g:ResourceTag/<tag-key>	-	-
		-	g:EnterpriseProjectId		

URI

GET /v2/{project_id}/statistics/pools/{pool_name}/workloads

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-318 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Definition**: Resource pool to which the job belongs. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 9-319 Response body parameters

Parameter	Type	Description
statistics	**statistics** object	**Definition**: Job statistics.

Table 9-320 statistics

Parameter	Type	Description
total	Integer	**Definition**: Number of statistics lists. **Range**: N/A
items	Array of **WorkloadStatistics** objects	**Definition**: Statistics of a specific job type.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 9-321 WorkloadStatistics

Parameter	Type	Description
type	String	**Definition**: Job type. **Range** • **train**: training job • **infer**: inference job • **notebook**: notebook job
total	Integer	**Definition**: Number of jobs. **Range**: N/A
status	**status** object	**Definition**: Number of jobs in different states.

Table 9-322 status

Parameter	Type	Description
Queue	Integer	**Definition**: Number of queuing jobs. **Range**: N/A
Pending	Integer	**Definition**: Number of pending jobs. **Range**: N/A
Abnormal	Integer	**Definition**: Number of abnormal jobs. **Range**: N/A
Terminating	Integer	**Definition**: Number of jobs being terminated. **Range**: N/A
Creating	Integer	**Definition**: Number of jobs being created. **Range**: N/A
Running	Integer	**Definition**: Number of running jobs. **Range**: N/A
Completed	Integer	**Definition**: Number of completed jobs. **Range**: N/A
Terminated	Integer	**Definition**: Number of terminated jobs. **Range**: N/A
Failed	Integer	**Definition**: Number of jobs that fail to be executed. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status code: 400

Table 9-323 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 9-324 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

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."
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	OK.
400	Bad Request.
404	Not Found.

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10 Lite Server Management

10.1 Querying All Lite Server Instances of a User

Function

This API is used to obtain details about all Lite Server instances of a user. It is used when you need to view the status and configuration of all Lite Server instances of a user for resource management and monitoring. Before using this API, ensure that you have logged in to the system and have the permission to view Lite Server instances. After this API is called, the system returns the list of all Lite Server instances of the user, including the instance ID, name, status, and creation time. If you do not have the required permission or have not logged in, the API returns an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID **Constraints**: Mandatory **Range**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Default Value**: N/A

Table 10-2 Query Parameters

Parameter	Mandatory	Type	Description
owner	No	String	**Definition**: User ID of the instance **Constraints**: Optional **Range**: This value contains 1 to 64 characters. Lowercase letters, digits, and hyphens (-) are allowed. 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. **Default Value**: N/A
sort_dir	No	String	**Definition**: Sorting mode **Constraints**: Optional **Range**: • **ASC**: ascending order • **DESC**: descending order **Default Value**: **ASC**
sort_key	No	String	**Definition**: Sorting field **Constraints**: Optional **Range**: • **createTime**: sorting by creation time (default value) • **updateTime**: sorting by update time **Default Value**: **createTime**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
limit	No	Integer	**Definition**: Number of records on each page **Constraints**: Optional **Range**: 0 to 1024 **Default Value**: **10**
offset	No	Integer	**Definition**: Start offset of the records on each page **Constraints**: Optional **Range**: 0 to 2147483647 **Default Value**: **0**

Request Parameters

None

Response Parameters

Status code: 200

Table 10-3 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. Value range: 1 to 2097152
data	Array of **ServerResponse** objects	**Definition**: Lite Server instance list.
pages	Integer	**Definition**: Total number of pages. Value range: 1 to 2097152
size	Integer	**Definition**: Number of records on each page. Maximum number of instances returned on each page. The value of this parameter directly affects the amount of returned data. You can adjust the value to optimize the query performance or increase the information volume of a single request. **Range**: 1 to 1024

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
total	Long	**Definition**: Total number of records. Total number of instances that meet the search criteria. This field is used to learn the overall data scale. **Range**: 1 to 2147483647

Table 10-4 ServerResponse

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-5 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-6 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-7 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-8 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-9 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-10 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

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-evs-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"
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    },
    "name" : "EI-evs-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 Lite Server

Function

This API is used to create Lite Server ECSs, BMSs, and supernode servers. It is used when you need to quickly deploy and configure different types of server resources based on service requirements. Before calling this API, ensure that you have logged in to the system and have the permission to create Lite Servers. In addition, you need to provide required parameters, such as the server type, specifications, and network configuration. After the creation, the system returns the information about the created Lite Server instance, including the instance ID and status. If you do not have the required permission, the parameter settings are incorrect, or system resources are insufficient, the API returns an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:devserver:create	Write	devserver *	-	-	-
		-	g:EnterpriseProjectId		

URI

POST /v1/{project_id}/dev-servers

Table 10-11 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID **Constraints**: Mandatory **Range**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 10-12 Request body parameters

Parameter	Mandatory	Type	Description
admin_pass	No	String	**Definition**: Password used for logging in to the server. Select either **admin_pass** or **key_pair_name**. The password must: • Contain 8 to 26 characters. • Contain at least three of the following types: uppercase letters, lowercase letters, digits, and special characters (!@%-_=+[{}]:,./?). • Cannot be the username or the username spelled backwards. • Cannot contain root, administrator, or their reverse. **Constraints**: **admin_pass** and **key_pair_name** cannot exist at the same time. **Range**: The value must contain 8 to 26 characters and meet the preceding password rules. **Default Value**: N/A
arch	No	String	**Definition**: Architecture type of a server flavor. **Constraints**: N/A **Range**: • **X86**: The CPU architecture is x86. • **ARM**: The CPU architecture is Arm. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
availability_zone	No	String	**Definition**: AZ where the server is located. **Constraints**: N/A **Range**: The value can contain 1 to 256 characters. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. **Default Value**: N/A
charging_info	No	**ChargingInfo** object	**Definition**: Billing mode of a server.
count	No	Integer	**Definition**: Number of servers purchased at a time. **Constraints**: N/A **Range**: **1** to **100** **Default Value**: N/A
enterprise_project_id	No	String	**Definition**: Enterprise ID. **Constraints**: N/A **Range**: The value can contain 1 to 36 characters. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. **Default Value**: N/A
flavor	Yes	String	**Definition**: Server flavor name. **Constraints**: N/A **Range**: The value can contain 1 to 128 characters. Only letters, digits, and periods (.) are allowed. **Default Value**: N/A
image_id	Yes	String	**Definition**: Server image ID. **Constraints**: N/A **Range**: The value must be a string of 36 characters in UUID format. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
key_pair_name	No	String	**Definition**: Key pair name used for logging in to the server. Select either **admin_pass** or **key_pair_name**. Note that supernodes can be created only using key pairs. **Constraints**: **admin_pass** and **key_pair_name** cannot exist at the same time. **Range**: The value can contain 1 to 64 characters. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. **Default Value**: N/A
name	Yes	String	**Definition**: Server name. **Constraints**: N/A **Range**: The value can contain 1 to 64 characters. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. **Default Value**: N/A
network	Yes	**ServerNetwork** object	**Definition**: Server network information. **Constraints**: N/A **Range**: See #/definitions/ServerNetwork. **Default Value**: N/A
root_volume	No	**EvsVolume** object	**Definition**: System disk information of a server. **Constraints**: N/A **Range**: See #/definitions/EvsVolume. **Default Value**: N/A
data_volume	No	**ServerDataVolume** object	**Definition**: Data disk information of a server. **Constraints**: N/A **Range**: See #/definitions/ServerDataVolume. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
server_type	No	String	**Definition**: Server type. **Constraints**: N/A **Range**: • **BMS** • **ECS** • **HPS**: supernode server **Default Value**: N/A
userdata	No	String	**Definition**: Custom data to be injected into the instance during cloud server creation. Texts and text files can be injected. Example: Before base64 encoding: • Linux server: `#!/bin/bash` `echo user_test > /home/user.txt` After base64 encoding: • Linux server: `IyEvYmluL2Jhc2gKZWNobyB1c2VyX3Rlc3QgPiAvaG9tZS91c2VyLnR4dA==` For more information about user data injection, see **Injecting User Data**. You must be aware of the effects of **user_data**. You are responsible for the impact and risks. **Constraints**: • The content of **user_data** must be encoded with Base64. • The maximum size of the content to be injected (before encoding) is 32K. **Range**: N/A. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
hps_cluster_id	No	String	**Definition**: Network information of the supernode cluster. This parameter is required only when a supernode is created. **Constraints**: This parameter is used only for creating HPS servers. **Range**: The value must be a string of 36 characters in UUID format. **Default Value**: N/A

Table 10-13 ChargingInfo

Parameter	Mandatory	Type	Description
charging_mode	Yes	String	**Definition**: Payment type, which is the billing mode of the server. **Constraints**: N/A **Range**: • **COMMON**: Both yearly/monthly and pay-per-use are supported. • **POST_PAID**: postpaid charging mode • **PRE_PAID**: prepaid charging mode **Default Value**: N/A
is_auto_pay	No	Boolean	**Definition**: Specifies whether to enable automatic payment. **Constraints**: N/A **Range**: • **true**: The order will be automatically paid. • **false**: The order will not be automatically paid. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
is_auto_renew	No	Boolean	**Definition**: Specifies whether to enable auto renewal. **Constraints**: N/A **Range**: • **true**: Auto renewal is enabled. • **false**: Auto renewal is not enabled. **Default Value**: N/A
period_num	Yes	Integer	**Definition**: Number of subscription periods. **Constraints**: N/A **Range**: **1** to **11** **Default Value**: N/A
period_type	Yes	String	**Definition**: Subscription period type, which defines the time unit for the subscription period. **Constraints**: N/A **Range**: • **ABSOLUTE** • **DAY** • **HOUR** • **MONTH** • **WEEK** • **YEAR** **Default Value**: N/A

Table 10-14 ServerNetwork

Parameter	Mandatory	Type	Description
ipv6_enable	No	Boolean	**Definition**: Whether IPv6 is enabled when a server is created. **Constraints**: N/A **Range**: • **true**: IPv6 is enabled. • **false**: IPv6 is disabled. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
roce_id	No	String	**Definition**: RoCE network ID of the server. **Constraints**: N/A **Range**: The value must be a string in UUID format. **Default Value**: N/A
security_group_id	Yes	String	**Definition**: ID of the security group to which the server belongs. **Constraints**: N/A **Range**: The value must be a string in UUID format. **Default Value**: N/A
subnet_id	Yes	String	**Definition**: ID of the subnet where the server is located. **Constraints**: N/A **Range**: The value must be a string in UUID format. **Default Value**: N/A
vpc_id	Yes	String	**Definition**: ID of the VPC where the server is located. **Constraints**: N/A **Range**: The value must be a string in UUID format. **Default Value**: N/A

Table 10-15 EvsVolume

Parameter	Mandatory	Type	Description
size	No	Integer	**Definition**: System disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
type	No	String	**Definition**: System disk type, which indicates the storage type of the system disk. **Constraints**: N/A **Range**: • **ESSD**: extreme SSD • **GPSSD**: General-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

Table 10-16 ServerDataVolume

Parameter	Mandatory	Type	Description
size	Yes	Integer	**Definition**: Data disk size. Storage space allocated to a data disk. **Constraints**: N/A **Range**: 100 to 32,768 GB **Default Value**: N/A
type	Yes	String	**Definition**: System disk type, which indicates the storage type of the data disk. **Constraints**: N/A **Range**: • **ESSD**: extreme SSD • **GPSSD**: General-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
count	Yes	Integer	**Definition**: Number of data disks. Number of data disks allocated to an instance. **Constraints**: N/A **Range**: **1** to **8** **Default Value**: N/A

Response Parameters

Status code: 200

Table 10-17 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-18 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-19 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-20 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-21 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-22 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-23 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers

{
  "name" : "EI-evs-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" : "@LiteServer"
}
```

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-evs-1107",
  "status" : "CREATING",
  "update_at" : 1699348285077
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

10.3 Querying Lite Server Instance Details

Function

This API is used to obtain the details of a specified Lite Server instance. It is used when you need to view the configuration, status, and network information of a specific Lite Server instance for fault locating, resource management, and monitoring. Before using this API, ensure that you have logged in to the system, have the permission to view the Lite Server instance, and have a valid instance ID. After the query, the system returns the details of the specified Lite Server instance, including the instance ID, name, status, configuration, and network configuration. If you do not have the required permission, the instance ID is invalid, or the instance does not exist, the API returns an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:devserver:get	Read	devserver *	-	-	-
		-	g:EnterpriseProjectId		

URI

GET /v1/{project_id}/dev-servers/{id}

Table 10-24 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server ID. **Constraints**: Mandatory. **Range**: 1 to 64 characters. **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID **Constraints**: Mandatory **Range**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-25 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
update_at	Long	**Definition**: Update time. **Range**: N/A
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-26 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-27 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-28 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-29 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-30 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-31 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

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-evs-1107",
  "status" : "STARTING",
  "update_at" : 1699348285077
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.4 Changing the Lite Server Instance Name

Function

This API is used to change the name of a created DevServer instance. It is used when you need to rename a DevServer instance to better reflect the function or usage of the instance, or when the instance name does not comply with the current project naming rules. Before using this API, ensure that the DevServer instance exists and you have the permission to manage the instance. After the modification, the new name of the instance takes effect immediately and is updated in all related views and records. If the DevServer instance does not exist, you do not have the required permission, or the new name does not comply with the naming rules, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

PUT /v1/{project_id}/dev-servers/{id}

Table 10-32 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: DevServer ID. **Constraints**: Mandatory. **Range**: 1 to 64 characters **Default Value**: N/A

Request Parameters

Table 10-33 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	**Definition**: Server name. **Constraints**: N/A. **Range**: The value can contain 1 to 64 characters. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. **Default Value**: N/A.

Response Parameters

Status code: 200

Table 10-34 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-35 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-36 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-37 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-38 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-39 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-40 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Example Requests

```
PUT https://{endpoint}/v1/{project_id}/dev-servers/{id}

{
  "name" : "liteserver-g125"
}
```

Example Responses

Status code: 200

```
{
  "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" : "liteserver-g125",
  "status" : "RUNNING",
  "update_at" : 1699348285077
}
```

Status Codes

Status Code	Description
200	

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.5 Stopping a Lite Server Instance

Function

This API is used to stop a running Lite Server instance. It is used when you need to stop a Lite Server instance to save resources or perform maintenance. Before using this API, ensure that the Lite Server instance has been created and is running, and you have the permission to stop the instance. If the Lite Server instance does not exist or is stopped, or you do not have the required permission, the API returns an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:devserver:stop	Write	devserver *	-	-	-
		-	g:EnterpriseProjectId		

URI

PUT /v1/{project_id}/dev-servers/{id}/stop

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-41 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server instance ID. **Constraints**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID **Constraints**: For details, see **Obtaining a Project ID and Name**. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-42 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-43 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-44 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-45 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-46 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-47 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-48 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

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-evs-1107",
  "status" : "STOPPING",
  "update_at" : 1699348285077
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.6 Starting a Lite Server Instance

Function

This API is used to start a Lite Server instance that has been created but is not running. It is used when you need to use a Lite Server instance for development or testing. Before using this API, ensure that the Lite Server instance has been created and is stopped, and you have the permission to start the instance. If the Lite Server instance does not exist or is running, or you do not have the required permission, the API returns an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:devserver:start	Write	devserver *	-	-	-
		-	g:EnterpriseProjectId		

URI

PUT /v1/{project_id}/dev-servers/{id}/start

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-49 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server instance ID. **Constraints**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID **Constraints**: For details, see **Obtaining a Project ID and Name**. **Range**: N/A **Default Value**: N/A

Request Parameters

Table 10-50 Request body parameters

Parameter	Mandatory	Type	Description
arch	No	String	**Definition**: Server architecture information. **Constraints**: N/A **Range**: • **ARM** • **X86** **Default value**: N/A
charging_mode	No	String	**Definition**: Billing mode of the server flavor. **Constraints**: N/A **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly **Default value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
server_type	No	String	**Definition**: Server type. **Constraints**: N/A **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server **Default value**: N/A

Response Parameters

Status code: 200

Table 10-51 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-52 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-53 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-54 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-55 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-56 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-57 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

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-evs-1107",
  "status" : "STARTING",
  "update_at" : 1699348285077
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.7 Deleting a Lite Server Instance

Function

This API is used to delete a created Lite Server instance. It is used when a pay-per-use Lite Server instance is no longer needed, fails to be created, or is in the **ERROR** state. Before using this API, ensure that the Lite Server instance exists and you have the administrator permissions. After the deletion, the Lite Server instance is permanently removed, and related resources are cleared. If the Lite Server instance does not exist or you do not have the required permission, the API returns an error message.

Constraints

Only pay-per-use instances that fail to be created or in the **ERROR** state can be deleted.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:devserver:delete	Write	devserver *	-	-	-
		-	g:EnterpriseProjectId		

URI

DELETE /v1/{project_id}/dev-servers/{id}

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-58 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server ID. **Constraints**: Mandatory. **Range**: 1 to 64 characters. **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID **Constraints**: Mandatory **Range**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-59 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-60 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-61 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-62 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-63 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-64 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-65 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

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-evs-1107",
  "status" : "DELETING",
  "update_at" : 1699348285077
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.8 Creating a Hyper Cluster

Function

This API is used to create a hyper cluster in the system. It is used when you need to use a supernode network and create a hyper cluster. Before using this API, ensure that you have logged in to the system and have the permission to create a hyper cluster, and the required resources have been configured in the system. After the creation, a supernode network is created, and details about the supernode network are returned, including the ID, name, and subnet information. If you do not have the required permission, the system does not have the required resources, or the configuration parameters are invalid, the API returns an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/dev-servers/hyper-clusters

Table 10-66 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. **Constraints**: Mandatory. **Range**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 10-67 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	**Definition**: Name of the hyper cluster. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
hyper_cluster_subnet_id	No	String	**Definition**: ID of the hyper cluster. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
type	No	String	**Definition**: Server type. **Constraints**: N/A. **Range**: • **HPS**: Supernode server • **ECS**: Elastic Cloud Server **Default Value**: N/A.

Response Parameters

Status code: 200

Table 10-68 Response body parameters

Parameter	Type	Description
id	String	**Definition**: ID of the hyper cluster. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Name of the hyper cluster. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
network_info	Array of **network_info** objects	Network information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-69 network_info

Parameter	Type	Description
hyper_cluster_subnet_id	String	**Definition**: Subnet name of the hyper cluster. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
is_default	Boolean	**Definition**: Indicates whether the network is default. **Constraints**: N/A **Range** • **true**: default network • **false**: non-default network

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers/hyper-clusters

{
  "name" : "test-hps--1107"
}
```

Example Responses

Status code: 200

OK

```
{
  "id" : "74437437-6810-43b8-ba20-8f8e5bc034da",
  "name" : "test-hps--1107",
  "network_info" : [ {
    "hyper_cluster_subnet_id" : "47be1c96-b00c-4cc9-83cb-089893a632b6",
    "is_default" : true
  } ]
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.9 Obtaining the Hyper Cluster Details List

Function

This API is used to obtain details about all hyper clusters. It is used when you need to know the configuration and status of all supernode networks in the system. Before using this API, ensure that you have logged in to the system and have the permission to query hyper cluster details. After the query, the API returns details about all supernode networks, including the ID, name, and subnet information. If you do not have the required permission or the system does not have hyper clusters, the API returns an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/hyper-clusters

Table 10-70 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. **Constraints**: Mandatory. **Range**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-71 Query Parameters

Parameter	Mandatory	Type	Description
type	No	String	**Definition**: Hyper cluster type. **Constraints**: Optional. **Range** • **HPS**: Default value, which is used to query the hyper cluster of the HPS model. • **ECS**: Query the hyper cluster of the ECS model. **Default Value**: **HPS**

Request Parameters

None

Response Parameters

Status code: 200

Table 10-72 Response body parameters

Parameter	Type	Description
hyper_clusters	Array of **HyperCluster** objects	**Definition**: Hyper cluster list.

Table 10-73 HyperCluster

Parameter	Type	Description
id	String	**Definition**: ID of the hyper cluster. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Name of the hyper cluster. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
network_info	Array of **network_info** objects	Network information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-74 network_info

Parameter	Type	Description
hyper_cluster_subnet_id	String	**Definition**: Subnet name of the hyper cluster. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
is_default	Boolean	**Definition**: Indicates whether the network is default. **Constraints**: N/A **Range** • **true**: default network • **false**: non-default network

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/hyper-clusters
```

Example Responses

Status code: 200

OK

```
{
  "hyper_clusters" : [ {
    "id" : "e05f463f-b8d0-4377-bb48-a72c67432590",
    "name" : "kat3ned-8-752t.80xlarge.8.matrix-6e35",
    "network_info" : [ {
      "hyper_cluster_subnet_id" : "a7f3607c-4d7d-4bd0-b922-5a8f1e3a4f48",
      "is_default" : true
    } ]
  }, {
    "id" : "c9292bec-40eb-4cac-94ea-d7ce0b7941a5",
    "name" : "test-kat3ne-8.48xlarge.8.800t.matrix",
    "network_info" : [ {
      "hyper_cluster_subnet_id" : "730a875a-2f98-4d4f-b93e-11ae072173d7",
      "is_default" : true
    } ]
  } ]
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.10 Querying Hyper Cluster Instance Details

Function

This API is used to obtain the details of a specified hyper cluster instance. It is used when you need to know the configuration and status of a supernode network for management and monitoring. Before using this API, ensure that you have logged in to the system, have the permission to query hyper cluster details, and the specified supernode network exists. After the query, the API returns details about the specified supernode network, including the ID, name, and subnet information. If you do not have the required permission to perform the operation, the specified supernode network does not exist, or the ID is invalid, the API returns an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/hyper-clusters/{id}

Table 10-75 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Description**: Hyper cluster ID. **Constraints**: Mandatory. **Range**: 1 to 64 characters. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. **Constraints**: Mandatory. **Range**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Default Value**: N/A

Table 10-76 Query Parameters

Parameter	Mandatory	Type	Description
type	No	String	**Definition**: Hyper cluster type. **Constraints**: Optional. **Range** • **HPS**: Default value, which is used to query the hyper cluster of the HPS model. • **ECS**: Query the hyper cluster of the ECS model. **Default Value**: **HPS**

Request Parameters

None

Response Parameters

Status code: 200

Table 10-77 Response body parameters

Parameter	Type	Description
id	String	**Definition**: ID of the hyper cluster. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Name of the hyper cluster. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
network_info	Array of **network_info** objects	Network information.

Table 10-78 network_info

Parameter	Type	Description
hyper_cluster_subnet_id	String	**Definition**: Subnet name of the hyper cluster. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
is_default	Boolean	**Definition**: Indicates whether the network is default. **Constraints**: N/A **Range** • **true**: default network • **false**: non-default network

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/hyper-clusters/{id}
```

Example Responses

Status code: 200

OK

```
{
  "id" : "74437437-6810-43b8-ba20-8f8e5bc034da",
  "name" : "test-hps--1107",
  "network_info" : [ {
    "hyper_cluster_subnet_id" : "47be1c96-b00c-4cc9-83cb-089893a632b6",
    "is_default" : true
  } ]
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.11 Deleting a Hyper Cluster Instance

Function

This API is used to delete a created hyper cluster instance. It is used when the supernode network is incorrectly configured or resources need to be cleared. Before using this API, ensure that the hyper cluster instance exists and you have the administrator permissions. After the deletion, the supernode network is permanently removed, and related resources and configurations are cleared. If the hyper cluster instance does not exist or you do not have the operation permission, the API returns an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

DELETE /v1/{project_id}/dev-servers/hyper-clusters/{id}

Table 10-79 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Description**: Hyper cluster ID. **Constraints**: Mandatory. **Range**: 1 to 64 characters. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. **Constraints**: Mandatory. **Range**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Default Value**: N/A

Table 10-80 Query Parameters

Parameter	Mandatory	Type	Description
type	No	String	**Definition**: Hyper cluster type. **Constraints**: Optional. **Range** • **HPS**: Default value, which is used to query the hyper cluster of the HPS model. • **ECS**: Query the hyper cluster of the ECS model. **Default Value**: **HPS**

Request Parameters

None

Response Parameters

Status code: 204

Request succeeded.

None

Example Requests

```
DELETE https://{endpoint}/v1/{project_id}/dev-servers/hyper-clusters/{id}
```

Example Responses

None

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
204	Request succeeded.

Error Codes

See **Error Codes**.

10.12 Synchronizing the Status of All Lite Server Instances of a User in Real Time

Function

This API is used to obtain and synchronize the status of a Lite Server instance in real time. It is used when you need to monitor the status of a Lite Server instance in real time to ensure that the instance is running properly or detect and handle exceptions in a timely manner. Before using this API, ensure that you have logged in to the system and have the required permission, and the Lite Server instance has been created and is running. After this API is called, the latest status of the Lite Server instance is returned, including the instance ID, status, and resource usage. If you do not have the required permission or the Lite Server instance does not exist, the API returns an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:devserver:sync	Write	devserver *	-	-	-
		-	g:EnterpriseProjectId		

URI

PUT /v1/{project_id}/dev-servers/sync

Table 10-81 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID **Constraints**: Mandatory **Range**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Default Value**: N/A

Table 10-82 Query Parameters

Parameter	Mandatory	Type	Description
owner	No	String	**Definition**: User ID of the instance **Constraints**: Optional **Range**: This value contains 1 to 64 characters. Lowercase letters, digits, and hyphens (-) are allowed. 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. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
sort_dir	No	String	**Definition**: Sorting mode **Constraints**: Optional **Range**: • **ASC**: ascending order • **DESC**: descending order **Default Value**: **ASC**
sort_key	No	String	**Definition**: sorting field. **Constraints**: optional. **Options**: • **createTime**: sorting by creation time (default value) • **updateTime**: sorting by update time. **Default Value**: **createTime**
offset	No	Integer	**Definition**: Start offset of the records on each page **Constraints**: Optional **Range**: 0 to 2147483647 **Default Value**: **0**
limit	No	Integer	**Definition**: Number of records on each page **Constraints**: Optional **Range**: 0 to 1024 **Default Value**: **10**

Request Parameters

None

Response Parameters

Status code: 200

Table 10-83 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. Value range: 1 to 2097152

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
data	Array of **ServerResponse** objects	**Definition**: Lite Server instance list.
pages	Integer	**Definition**: Total number of pages. Value range: 1 to 2097152
size	Integer	**Definition**: Number of records on each page. Maximum number of instances returned on each page. The value of this parameter directly affects the amount of returned data. You can adjust the value to optimize the query performance or increase the information volume of a single request. **Range**: 1 to 1024
total	Long	**Definition**: Total number of records. Total number of instances that meet the search criteria. This field is used to learn the overall data scale. **Range**: 1 to 2147483647

Table 10-84 ServerResponse

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-85 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-86 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-87 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-88 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-89 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-90 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

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-evs-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"
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    },
    "name" : "EI-evs-1107",
    "status" : "CREATING",
    "update_at" : 1699348285077
  } ],
  "pages" : 1,
  "size" : 2,
  "total" : 2
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

10.13 Creating a Lite Server Supernode Tag

Function

This API is used to add a custom tag to a Lite Server supernode. It is used when you need to manage Lite Server supernodes by category or mark specific information. Before using this API, ensure that the Lite Server supernode exists and you have the permission to create tags. After the creation, the tag is added to the specified supernode. You can quickly search for and manage the supernode by tag. If the Lite Server supernode does not exist, the tag already exists, or you do not have the permission to perform operations on the supernode, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/dev-servers/hyperinstance/{id}/tags/create

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-91 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server supernode ID.
project_id	Yes	String	**Definition**: Project ID **Constraints**: For details, see **Obtaining a Project ID and Name**. **Range**: N/A **Default Value**: N/A

Request Parameters

Table 10-92 Request body parameters

Parameter	Mandatory	Type	Description
tags	Yes	Array of **TmsTag** objects	**Definition**: Tag list.

Table 10-93 TmsTag

Parameter	Mandatory	Type	Description
key	Yes	String	**Definition**: Key of a TMS tag. **Constraints**: The value can contain at most 128 characters and cannot start or end with ***sys***. Only letters, digits, spaces, and special characters (_.:=+-@) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
value	Yes	String	**Definition**: Value of a TMS tag. **Constraints**: The value can contain at most 255 characters. Only letters, digits, spaces, and special characters (_.:/=+-@) are allowed. **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

Table 10-94 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-95 Response body parameters

Parameter	Type	Description
tags	Array of **TmsTag** objects	Tag list.

Table 10-96 TmsTag

Parameter	Type	Description
key	String	**Definition**: Key of a TMS tag. **Constraints**: The value can contain at most 128 characters and cannot start or end with ***sys***. Only letters, digits, spaces, and special characters (_.:=+-@) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
value	String	**Definition**: Value of a TMS tag. **Constraints**: The value can contain at most 255 characters. Only letters, digits, spaces, and special characters (_.:/=+-@) are allowed. **Range**: N/A **Default Value**: N/A

Status code: 400

Table 10-97 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-98 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 10-99 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-100 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 10-101 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-102 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 500

Table 10-103 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-104 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers/hyperinstance/{id}/tags/create
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
  "tags" : [ {
    "key" : "k1",
    "value" : "v1"
  }, {
    "key" : "k2",
    "value" : "v2"
  }, {
    "key" : "k3",
    "value" : "v3"
  }, {
    "key" : "k4",
    "value" : "v4"
  } ]
}
```

Example Responses

Status code: 200

Definition: Response body for creating a Lite Server supernode tag.

```
{
  "tags" : [ {
    "key" : "k1",
    "value" : "v1"
  }, {
    "key" : "k2",
    "value" : "v2"
  }, {
    "key" : "k3",
    "value" : "v3"
  }, {
    "key" : "k4",
    "value" : "v4"
  } ]
}
```

Status Codes

Status Code	Description
200	**Definition**: Response body for creating a Lite Server supernode tag.
400	Bad Request
401	Unauthorized
403	Forbidden
500	Server Internal Error

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.14 Deleting a Lite Server Supernode Tag

Function

This API is used to delete a Lite Server supernode tag. It is used when you need to delete unnecessary tags or correct tag errors. Before using this API, ensure that the Lite Server supernode exists, the supernode has the tag to be deleted, and you have the permission to delete tags. After the deletion, the specified tag is removed from the supernode, and other configurations and data of the supernode remain unchanged. If the Lite Server supernode does not exist, the tag does not exist, or you do not have the permission to perform operations on the supernode, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/dev-servers/hyperinstance/{id}/tags/delete

Table 10-105 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server supernode ID.
project_id	Yes	String	**Definition**: Project ID **Constraints**: For details, see **Obtaining a Project ID and Name**. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 10-106 Request body parameters

Parameter	Mandatory	Type	Description
tags	Yes	Array of **TmsTag** objects	**Definition**: Tag list.

Table 10-107 TmsTag

Parameter	Mandatory	Type	Description
key	Yes	String	**Definition**: Key of a TMS tag. **Constraints**: The value can contain at most 128 characters and cannot start or end with ***sys***. Only letters, digits, spaces, and special characters (_.:=+-@) are allowed. **Range**: N/A **Default Value**: N/A
value	Yes	String	**Definition**: Value of a TMS tag. **Constraints**: The value can contain at most 255 characters. Only letters, digits, spaces, and special characters (_.:/=+-@) are allowed. **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

Table 10-108 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-109 Response body parameters

Parameter	Type	Description
tags	Array of **TmsTag** objects	Tag list.

Table 10-110 TmsTag

Parameter	Type	Description
key	String	**Definition**: Key of a TMS tag. **Constraints**: The value can contain at most 128 characters and cannot start or end with ***sys***. Only letters, digits, spaces, and special characters (_.:=+-@) are allowed. **Range**: N/A **Default Value**: N/A
value	String	**Definition**: Value of a TMS tag. **Constraints**: The value can contain at most 255 characters. Only letters, digits, spaces, and special characters (_.:/=+-@) are allowed. **Range**: N/A **Default Value**: N/A

Status code: 400

Table 10-111 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-112 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status code: 401

Table 10-113 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-114 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 10-115 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-116 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 500

Table 10-117 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-118 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers/hyperinstance/{id}/tags/delete

{
  "tags" : [ {
    "key" : "k1",
    "value" : "v1"
  }, {
    "key" : "k2",
    "value" : "v2"
  }, {
    "key" : "k3",
    "value" : "v3"
  }, {
    "key" : "k4",
    "value" : "v4"
  } ]
}
```

Example Responses

None

Status Codes

Status Code	Description
200	**Definition**: Response body for deleting a Lite Server supernode tag.
400	Bad Request
401	Unauthorized
403	Forbidden
500	Server Internal Error

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.15 Querying Lite Server Supernode Tags

Function

This API is used to obtain all tag information on a Lite Server supernode. It is used when you need to view or manage tags of a Lite Server supernode. Before using this API, ensure that the Lite Server supernode exists and you have the permission to query tags. After the query, the API returns all tag information on the supernode, including the tag name and related attributes. If the Lite Server supernode does not exist or you do not have the permission to perform operations on the supernode, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/hyperinstance/{id}/tags

Table 10-119 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server supernode ID.
project_id	Yes	String	**Definition**: Project ID **Constraints**: For details, see **Obtaining a Project ID and Name**. **Range**: N/A **Default Value**: N/A

Request Parameters

None

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 10-120 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-121 Response body parameters

Parameter	Type	Description
tags	Array of **TmsTag** objects	Tag list.

Table 10-122 TmsTag

Parameter	Type	Description
key	String	**Definition**: Key of a TMS tag. **Constraints**: The value can contain at most 128 characters and cannot start or end with ***sys***. Only letters, digits, spaces, and special characters (_.:=+-@) are allowed. **Range**: N/A **Default Value**: N/A
value	String	**Definition**: Value of a TMS tag. **Constraints**: The value can contain at most 255 characters. Only letters, digits, spaces, and special characters (_.:/=+-@) are allowed. **Range**: N/A **Default Value**: N/A

Status code: 400

Table 10-123 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-124 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 10-125 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-126 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 10-127 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-128 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status code: 500

Table 10-129 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-130 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/hyperinstance/{id}/tags
```

Example Responses

Status code: 200

Definition: Response body of the tag list

```
{
  "tags" : [ {
    "key" : "k1",
    "value" : "v1"
  }, {
    "key" : "k2",
    "value" : "v2"
  }, {
    "key" : "k3",
    "value" : "v3"
  }, {
    "key" : "k4",
    "value" : "v4"
  } ]
}
```

Status Codes

Status Code	Description
200	**Definition**: Response body of the tag list
400	Bad Request
401	Unauthorized

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
403	Forbidden
500	Server Internal Error

Error Codes

See **Error Codes**.

10.16 Reinstalling the OS Image of a Lite Server

Function

This API is used to reinstall the OS image of a Lite Server. It is used when you need to update the OS version, rectify system faults, or reconfigure the system environment. Before using this API, ensure that the Lite Server exists and is stopped, and you have the permission to reinstall the OS. After the reinstallation, the new OS image is installed for the Lite Server and the Lite Server starts running. If the Lite Server does not exist, is running, or you do not have the required permission, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/dev-servers/{id}/reinstallos

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-131 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server instance ID. **Constraints**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID **Constraints**: For details, see **Obtaining a Project ID and Name**. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 10-132 Request body parameters

Parameter	Mandatory	Type	Description
admin_pass	No	String	**Definition**: Password used for logging in to the server. Note that either **admin_pass** or **key_pair_name** must be specified for ECSs and BMSs and supernodes support only **key_pair_name**. **Constraints**: The password must: • Contain 8 to 26 characters. • Contain at least three of the following types: uppercase letters, lowercase letters, digits, and special characters (!@%-_=+[{}]:,./?). • Cannot be the username or the username spelled backwards. • Cannot contain root, administrator, or their reverse. **Range**: N/A **Default value**: N/A
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. This parameter is supported only when ECSs or BMSs are reset or their OSs are changed. Supernodes do not support this parameter.
image_id	No	String	**Definition**: Image ID. This parameter is mandatory when the OS is changed. **Constraints**: N/A **Range**: N/A **Default value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
user_data	No	String	**Definition**: Custom data to be injected into the instance during cloud server creation. Texts and text files can be injected. Example: Before base64 encoding: • Linux server: `#!/bin/bash` `echo user_test > /home/user.txt` After base64 encoding: • Linux server: `IyEvYmluL2Jhc2gKZWNobyB1c2VyX3Rlc3QgPiAvaG9tZS91c2VyLnR4dA==` For more information about user data injection, see **Injecting User Data**. You must be aware of the effects of **user_data**. You are responsible for the impact and risks. **Constraints**: • The content of **user_data** must be encoded with Base64. • The maximum size of the content to be injected (before encoding) is 32K. **Range**: N/A. **Default Value**: N/A.

Response Parameters

Status code: 200

Table 10-133 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-134 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-135 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-136 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-137 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-138 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-139 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-140 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Status code: 400

Table 10-141 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-142 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 10-143 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-144 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 10-145 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-146 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 500

Table 10-147 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-148 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers/{id}/reinstallos

{
  "admin_pass" : "@Admin_pass"
}
```

Example Responses

Status code: 200

OK

```
{
  "charging_mode" : "PRE_PAID",
  "cloud_server" : {
    "id" : "2c5261a0-b55b-4677-9c92-6927dd3e000d",
    "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" : "lite server-name",
  "status" : "REINSTALLOS",
  "update_at" : 1699348285077
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
500	Server Internal Error

Error Codes

See **Error Codes**.

10.17 Changing the OS Image of a Lite Server

Function

This API is used to change the OS image of a Lite Server. It is used when you need to change the OS of a Lite Server to meet different development or test

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

requirements. Before using this API, ensure that the Lite Server exists and is stopped, and you have the permission to switch the OS. After the OS is switched, the Lite Server will install the new OS image and enter the running state. If the Lite Server does not exist, is in the running state, or you do not have the operation permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/dev-servers/{id}/changeos

Table 10-149 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server instance ID. **Constraints**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID **Constraints**: For details, see **Obtaining a Project ID and Name**. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 10-150 Request body parameters

Parameter	Mandatory	Type	Description
admin_pass	No	String	**Definition**: Password used for logging in to the server. Note that either **admin_pass** or **key_pair_name** must be specified for ECSs and BMSs and supernodes support only **key_pair_name**. **Constraints**: The password must: • Contain 8 to 26 characters. • Contain at least three of the following types: uppercase letters, lowercase letters, digits, and special characters (!@%-_=+[{}]:,./?). • Cannot be the username or the username spelled backwards. • Cannot contain root, administrator, or their reverse. **Range**: N/A **Default value**: N/A
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. This parameter is supported only when ECSs or BMSs are reset or their OSs are changed. Supernodes do not support this parameter.
image_id	No	String	**Definition**: Image ID. This parameter is mandatory when the OS is changed. **Constraints**: N/A **Range**: N/A **Default value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
user_data	No	String	**Definition**: Custom data to be injected into the instance during cloud server creation. Texts and text files can be injected. Example: Before base64 encoding: • Linux server: `#!/bin/bash` `echo user_test > /home/user.txt` After base64 encoding: • Linux server: `IyEvYmluL2Jhc2gKZWNobyB1c2VyX3Rlc3QgPiAvaG9tZS91c2VyLnR4dA==` For more information about user data injection, see **Injecting User Data**. You must be aware of the effects of **user_data**. You are responsible for the impact and risks. **Constraints**: • The content of **user_data** must be encoded with Base64. • The maximum size of the content to be injected (before encoding) is 32K. **Range**: N/A. **Default Value**: N/A.

Response Parameters

Status code: 200

Table 10-151 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-152 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-153 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-154 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-155 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-156 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-157 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-158 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Status code: 400

Table 10-159 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-160 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 10-161 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-162 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 10-163 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-164 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 500

Table 10-165 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-166 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers/{id}/changeos

{
  "admin_pass" : "@Admin_pass",
  "image_id" : "c90fb553-2cdb-4b81-b56a-ef68812c6cf7"
}
```

Example Responses

Status code: 200

OK

```
{
  "charging_mode" : "PRE_PAID",
  "cloud_server" : {
    "id" : "2c5261a0-b55b-4677-9c92-6927dd3e000d",
    "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" : "lite server-name",
  "status" : "CHANGINGOS",
  "update_at" : 1699348285077
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
500	Server Internal Error

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.18 Changing the OS Image of a Lite Server Supernode

Function

This API is used to change the OS image of a Lite Server supernode. It is used when you need to change the OS of a Lite Server supernode to meet different development or test requirements. Before using this API, ensure that the Lite Server supernode exists and is stopped, and you have the permission to switch the OS. After the OS is switched, the Lite Server supernode will install the new OS image and enter the running state. If the Lite Server supernode does not exist, is in the running state, or you do not have the operation permission, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/dev-servers/hyperinstance/{id}/changeos

Table 10-167 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Supernode ID of the Lite Server instance. **Constraints**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID **Constraints**: For details, see **Obtaining a Project ID and Name**. **Range**: N/A **Default Value**: N/A

Request Parameters

Table 10-168 Request body parameters

Parameter	Mandatory	Type	Description
admin_pass	No	String	**Definition**: Password used for logging in to the server. Note that either **admin_pass** or **key_pair_name** must be specified for ECSs and BMSs and supernodes support only **key_pair_name**. **Constraints**: The password must: • Contain 8 to 26 characters. • Contain at least three of the following types: uppercase letters, lowercase letters, digits, and special characters (!@%-_=+[{}]:,./?). • Cannot be the username or the username spelled backwards. • Cannot contain root, administrator, or their reverse. **Range**: N/A **Default value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
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. This parameter is supported only when ECSs or BMSs are reset or their OSs are changed. Supernodes do not support this parameter.
image_id	No	String	**Definition**: Image ID. This parameter is mandatory when the OS is changed. **Constraints**: N/A **Range**: N/A **Default value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
user_data	No	String	**Definition**: Custom data to be injected into the instance during cloud server creation. Texts and text files can be injected. Example: Before base64 encoding: • Linux server: `#!/bin/bash` `echo user_test > /home/user.txt` After base64 encoding: • Linux server: `IyEvYmluL2Jhc2gKZWNobyB1c2VyX3Rlc3QgPiAvaG9tZS91c2VyLnR4dA==` For more information about user data injection, see **Injecting User Data**. You must be aware of the effects of **user_data**. You are responsible for the impact and risks. **Constraints**: • The content of **user_data** must be encoded with Base64. • The maximum size of the content to be injected (before encoding) is 32K. **Range**: N/A. **Default Value**: N/A.

Response Parameters

Status code: 200

Table 10-169 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-170 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
hps_cluster_id	String	**Definition**: Network ID of the supernode cluster. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
hps_id	String	**Definition**: Supernode ID. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
id	String	**Definition**: Lite Server supernode ID. **Constraints**: N/A. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A.
name	String	**Definition**: Instance name. **Constraints**: N/A **Range**: ^[-_.a-zA-Z0-9]{1,64}$ **Default Value**: N/A
order_id	String	**Definition**: Order ID. **Constraints**: N/A **Range**: ^[a-zA-Z0-9]{1,64}$ **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Supernode instance status. **Constraints**: N/A **Range**: • **PROVISIONING**: The request for creating a supernode has been accepted, but the supernode is still being created. • **ACTIVE**: The supernode is active and its resources can be used. • **ERROR**: The supernode fails to be created. • **REIMAGING**: The OS of the supernode is being changed. • **TERMINATING**: Resources are being released. • **TERMINATED**: The supernode resources have been released and are no longer available. **Default Value**: N/A
servers	Array of **ServerResponse** objects	**Definition**: List of supernode subnode instances. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
update_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 10-171 ServerResponse

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-172 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-173 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-174 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-175 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-176 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-177 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Status code: 400

Table 10-178 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-179 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 10-180 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-181 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 10-182 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-183 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 500

Table 10-184 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-185 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers/hyperinstance/{id}/changeos

{
  "image_id" : "c90fb553-2cdb-4b81-b56a-ef68812c6cf7"
}
```

Example Responses

Status code: 200

OK


```
{
  "create_at" : 1731055875839,
  "hps_cluster_id" : "42669b79-da2f-4482-ad40-22f50442c9e7",
  "hps_id" : "33806b62-1c7b-4781-8d2c-411a042b86b8",
  "id" : "b4beacb6-4380-448c-a218-daa82cf03f5d",
  "name" : "lite server-hps",
  "order_id" : "CS2411081650G9B6Z",
  "servers" : [ {
    "charging_mode" : "PRE_PAID",
    "cloud_server" : {
      "hps_id" : "33806b62-1c7b-4781-8d2c-411a042b86b8",
      "id" : "50208d41-749e-4bce-95a9-47a850925d4e",
      "type" : "HPS"
    },
    "create_at" : 1731055875840,
    "endpoints" : [ {
      "service" : "SSH",
      "uri" : "10.1.0.98"
    } ],
    "flavor" : "kat3ne-8.48xlarge.8.800t.matrix",
    "id" : "278d70a9-2049-450a-bf6d-db02fe9f6634",
    "image" : {
      "image_id" : "86496e41-87c4-4779-9007-4f8f5c2a208f"
    },
    "key_pair_name" : "KeyPair-hps",
    "name" : "lite server-hps-1",
    "order_id" : "CS2411081650G9B6Z",
    "server_hps" : {
      "id" : "b4beacb6-4380-448c-a218-daa82cf03f5d",
      "name" : "lite server-hps"
    },
    "status" : "CHANGINGOS",
    "update_at" : 1731209918651,
    "vpc_id" : "7980ccf4-44d0-42cc-a844-42e035379a38"
  } ],
  "status" : "REIMAGING",
  "update_at" : 1731209918651
}
```


Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
500	Server Internal Error

Error Codes

See **Error Codes**.

10.19 Obtaining Details About All Supernode Instances of a User

Function

This API is used to obtain details about all Lite Server supernode instances of a user. It is used when you need to view the configuration, status, and usage of all supernode instances. Before using this API, ensure that you have logged in to the system and have the permission to query supernode instances. After the query, the API returns details about all supernode instances, including the instance ID, OS, status, and resource usage. If you do not have the required permission or the system does not have supernode instances, the API returns an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/hyperinstance

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-186 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID **Constraints**: For details, see **Obtaining a Project ID and Name**. **Range**: N/A **Default Value**: N/A

Table 10-187 Query Parameters

Parameter	Mandatory	Type	Description
sort_dir	No	String	**Definition**: Sorting mode **Constraints**: N/A **Range**: Enums: - **ASC**: ascending order - **DESC**: descending order **Default Value**: N/A
sort_key	No	String	**Definition**: Sorting field **Constraints**: N/A **Range**: Enums: - **createTime**: sorting by creation time (default value) - **updateTime**: sorting by update time **Default Value**: N/A
limit	No	Integer	**Definition**: Number of records on each page **Constraints**: N/A **Range**: [1, 1024] **Default Value**: **10**
offset	No	Integer	**Definition**: Start offset of the records on each page **Constraints**: N/A **Range**: [0, 2147483647] **Default Value**: N/A

Request Parameters

None

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 10-188 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-189 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
data	Array of **ServerHyperinstanceResponse** objects	**Definition**: Lite Server supernode instance list. **Constraints**: N/A. **Range**: N/A. **Default Value**: N/A.
pages	Integer	**Definition**: Total number of pages. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
size	Integer	**Definition**: Number of records on each page. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
total	Long	**Definition**: Total number of records. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-190 ServerHyperinstanceResponse

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
hps_cluster_id	String	**Definition**: Network ID of the supernode cluster. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
hps_id	String	**Definition**: Supernode ID. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
id	String	**Definition**: Lite Server supernode ID. **Constraints**: N/A. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A.
name	String	**Definition**: Instance name. **Constraints**: N/A **Range**: ^[-_.a-zA-Z0-9]{1,64}$ **Default Value**: N/A
order_id	String	**Definition**: Order ID. **Constraints**: N/A **Range**: ^[a-zA-Z0-9]{1,64}$ **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Supernode instance status. **Constraints**: N/A **Range**: • **PROVISIONING**: The request for creating a supernode has been accepted, but the supernode is still being created. • **ACTIVE**: The supernode is active and its resources can be used. • **ERROR**: The supernode fails to be created. • **REIMAGING**: The OS of the supernode is being changed. • **TERMINATING**: Resources are being released. • **TERMINATED**: The supernode resources have been released and are no longer available. **Default Value**: N/A
servers	Array of **ServerResponse** objects	**Definition**: List of supernode subnode instances. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
update_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 10-191 ServerResponse

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-192 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-193 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-194 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-195 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-196 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-197 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Status code: 400

Table 10-198 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-199 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 10-200 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-201 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 10-202 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-203 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 500

Table 10-204 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-205 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/hyperinstance
```

Example Responses

Status code: 200

OK


```
{
  "current" : 0,
  "data" : [ {
    "create_at" : 1731055875839,
    "hps_cluster_id" : "42669b79-da2f-4482-ad40-22f50442c9e7",
    "hps_id" : "33806b62-1c7b-4781-8d2c-411a042b86b8",
    "id" : "b4beacb6-4380-448c-a218-daa82cf03f5d",
    "name" : "lite server-hps",
    "order_id" : "CS2411081650G9B6Z",
    "servers" : [ {
      "charging_mode" : "PRE_PAID",
      "cloud_server" : {
        "hps_id" : "33806b62-1c7b-4781-8d2c-411a042b86b8",
        "id" : "50208d41-749e-4bce-95a9-47a850925d4e",
        "type" : "HPS"
      },
      "create_at" : 1731055875840,
      "endpoints" : [ {
        "service" : "SSH",
        "uri" : "10.1.0.98"
      } ],
      "flavor" : "kat3ne-8.48xlarge.8.800t.matrix",
      "id" : "278d70a9-2049-450a-bf6d-db02fe9f6634",
      "image" : {
        "image_id" : "86496e41-87c4-4779-9007-4f8f5c2a208f"
      },
      "key_pair_name" : "KeyPair-hps",
      "name" : "lite server-hps-1",
      "order_id" : "CS2411081650G9B6Z",
      "server_hps" : {
        "id" : "b4beacb6-4380-448c-a218-daa82cf03f5d",
        "name" : "lite server-hps"
      },
      "status" : "RUNNING",
      "update_at" : 1731209918651,
      "vpc_id" : "7980ccf4-44d0-42cc-a844-42e035379a38"
    } ],
    "status" : "ACTIVE",
    "update_at" : 1731209918651
  } ],
  "pages" : 1,
  "size" : 10,
  "total" : 1
}
```


Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
403	Forbidden
500	Server Internal Error

Error Codes

See **Error Codes**.

10.20 Obtaining Details About a Specified Supernode Instance

Function

This API is used to obtain the details of a specific Lite Server supernode instance. It is used when you need to view the configuration, status, and usage of a specified supernode instance. Before using this API, ensure that you have logged in to the system and have the permission to query the supernode instance, and the specified supernode instance exists. After the query, the API returns details about a specified supernode instance, including the instance ID, OS, status, and resource usage. If you do not have the required permission to perform the operation, the specified supernode instance does not exist, or the instance ID is invalid, the API returns an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/hyperinstance/{id}

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-206 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server instance ID. **Constraints**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID **Constraints**: For details, see **Obtaining a Project ID and Name**. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-207 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-208 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
hps_cluster_id	String	**Definition**: Network ID of the supernode cluster. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
hps_id	String	**Definition**: Supernode ID. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
id	String	**Definition**: Lite Server supernode ID. **Constraints**: N/A. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A.
name	String	**Definition**: Instance name. **Constraints**: N/A **Range**: ^[-_.a-zA-Z0-9]{1,64}$ **Default Value**: N/A
order_id	String	**Definition**: Order ID. **Constraints**: N/A **Range**: ^[a-zA-Z0-9]{1,64}$ **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Supernode instance status. **Constraints**: N/A **Range**: • **PROVISIONING**: The request for creating a supernode has been accepted, but the supernode is still being created. • **ACTIVE**: The supernode is active and its resources can be used. • **ERROR**: The supernode fails to be created. • **REIMAGING**: The OS of the supernode is being changed. • **TERMINATING**: Resources are being released. • **TERMINATED**: The supernode resources have been released and are no longer available. **Default Value**: N/A
servers	Array of **ServerResponse** objects	**Definition**: List of supernode subnode instances. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
update_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 10-209 ServerResponse

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-210 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-211 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-212 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-213 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-214 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-215 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Status code: 400

Table 10-216 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-217 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 10-218 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-219 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 10-220 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-221 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 500

Table 10-222 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-223 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/hyperinstance/{id}
```

Example Responses

Status code: 200

OK


```
{
  "create_at" : 1731055875839,
  "hps_cluster_id" : "42669b79-da2f-4482-ad40-22f50442c9e7",
  "hps_id" : "33806b62-1c7b-4781-8d2c-411a042b86b8",
  "id" : "b4beacb6-4380-448c-a218-daa82cf03f5d",
  "name" : "lite server-hps",
  "order_id" : "CS2411081650G9B6Z",
  "servers" : [ {
    "charging_mode" : "PRE_PAID",
    "cloud_server" : {
      "hps_id" : "33806b62-1c7b-4781-8d2c-411a042b86b8",
      "id" : "50208d41-749e-4bce-95a9-47a850925d4e",
      "type" : "HPS"
    },
    "create_at" : 1731055875840,
    "endpoints" : [ {
      "service" : "SSH",
      "uri" : "10.1.0.98"
    } ],
    "flavor" : "kat3ne-8.48xlarge.8.800t.matrix",
    "id" : "278d70a9-2049-450a-bf6d-db02fe9f6634",
    "image" : {
      "image_id" : "86496e41-87c4-4779-9007-4f8f5c2a208f"
    },
    "key_pair_name" : "KeyPair-hps",
    "name" : "lite server-hps-1",
    "order_id" : "CS2411081650G9B6Z",
    "server_hps" : {
      "id" : "b4beacb6-4380-448c-a218-daa82cf03f5d",
      "name" : "lite server-hps"
    },
    "status" : "RUNNING",
    "update_at" : 1731209918651,
    "vpc_id" : "7980ccf4-44d0-42cc-a844-42e035379a38"
  } ],
  "status" : "ACTIVE",
  "update_at" : 1731209918651
}
```


Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
500	Server Internal Error

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

10.21 Deleting a Lite Server Supernode Instance

Function

This API is used to delete a pay-per-use supernode instance and remove the Lite Server supernode instances in the **ERROR** state. It is used when a supernode instance is in the **ERROR** state due to creation failure or other reasons. Before using this API, ensure that you have logged in to the system and have the permission to delete a supernode instance, and the specified supernode instance is pay-per-use and in the **RUNNING** or **ERROR** state. After the deletion, the specified supernode instance is permanently removed, and related resources are cleared. If the specified supernode instance does not exist, is not in the **ERROR** state, or you do not have the operation permission, the API returns an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

DELETE /v1/{project_id}/dev-servers/hyperinstance/{id}

Table 10-224 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server supernode ID. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID **Constraints**: For details, see **Obtaining a Project ID and Name**. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-225 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-226 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
hps_cluster_id	String	**Definition**: Network ID of the supernode cluster. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
hps_id	String	**Definition**: Supernode ID. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode ID. **Constraints**: N/A. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A.
name	String	**Definition**: Instance name. **Constraints**: N/A **Range**: ^[-_.a-zA-Z0-9]{1,64}$ **Default Value**: N/A
order_id	String	**Definition**: Order ID. **Constraints**: N/A **Range**: ^[a-zA-Z0-9]{1,64}$ **Default Value**: N/A
status	String	**Definition**: Supernode instance status. **Constraints**: N/A **Range**: • **PROVISIONING**: The request for creating a supernode has been accepted, but the supernode is still being created. • **ACTIVE**: The supernode is active and its resources can be used. • **ERROR**: The supernode fails to be created. • **REIMAGING**: The OS of the supernode is being changed. • **TERMINATING**: Resources are being released. • **TERMINATED**: The supernode resources have been released and are no longer available. **Default Value**: N/A
servers	Array of **ServerResponse** objects	**Definition**: List of supernode subnode instances. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
update_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 10-227 ServerResponse

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-228 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-229 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-230 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-231 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-232 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-233 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Status code: 400

Table 10-234 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-235 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 10-236 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-237 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 10-238 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-239 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 500

Table 10-240 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-241 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

```
DELETE https://{endpoint}/v1/{project_id}/dev-servers/hyperinstance/{id}
```

Example Responses

Status code: 200

OK

```
{
  "create_at" : 1731055875839,
  "hps_cluster_id" : "42669b79-da2f-4482-ad40-22f50442c9e7",
  "hps_id" : "33806b62-1c7b-4781-8d2c-411a042b86b8",
  "id" : "b4beacb6-4380-448c-a218-daa82cf03f5d",
  "name" : "lite server-hps",
  "order_id" : "CS2411081650G9B6Z",
  "servers" : [ ],
  "status" : "TERMINATING",
  "update_at" : 1731209918651
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
500	Server Internal Error

Error Codes

See **Error Codes**.

10.22 Restarting a Lite Server Instance

Function

This API is used to restart a running Lite Server instance. It is used when you need to restart a specified Lite Server instance to apply configuration changes, solve running problems, or maintain the system. Before using this API, ensure that the Lite Server instance has been created and is running, and you have the permission to restart the instance. After the restart, the Lite Server instance restarts and enters the running state. You can continue to use the services provided by the instance. If the Lite Server instance does not exist or is stopped, or you do not have the required permission, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

PUT /v1/{project_id}/dev-servers/{id}/reboot

Table 10-242 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server instance ID. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID **Constraints**: For details, see **Obtaining a Project ID and Name**. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-243 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-244 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-245 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-246 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-247 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-248 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-249 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-250 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Status code: 400

Table 10-251 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-252 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 10-253 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-254 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 10-255 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-256 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 500

Table 10-257 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-258 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

None

Example Responses

Status code: 200

OK


```
{
  "category" : "HPS",
  "charging_mode" : "PRE_PAID",
  "cloud_server" : {
    "hps_id" : "d4837700-0fb9-4597-93aa-5d43919e470e",
    "id" : "2e83f8d5-f0b4-4cd8-b02d-0de0b3be0b43",
    "type" : "HPS"
  },
  "create_at" : 1733379035379,
  "endpoints" : [ {
    "service" : "SSH",
    "uri" : "10.1.0.0"
  } ],
  "flavor" : "kat3ne-8-800t.48xlarge.8.matrix",
  "id" : "dab50b58-a5c9-4322-bc60-376ed45c0b80",
  "image" : {
    "arch" : "ARM",
    "image_id" : "32c85a96-1627-4328-8825-58a68dd09a60",
    "name" : "HCE_HPS",
    "server_type" : "HPS"
  },
  "key_pair_name" : "KeyPair-de42",
  "name" : "lite server",
  "order_id" : "CS2412051410VT1C8",
  "server_hps" : {
    "id" : "a2aaa100-d348-4830-9aca-3a8ccfb72021",
    "name" : "lite server"
  },
  "status" : "REBOOTING",
  "update_at" : 1733385707806,
  "vpc_id" : "7980ccf4-44d0-42cc-a844-42e035379a38"
}
```


Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
500	Server Internal Error

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.23 Starting a Lite Server Supernode

Function

This API is used to start a Lite Server supernode that has been created but is not running. It is used when you need to start a Lite Server supernode for development or testing. Before using this API, ensure that the Lite Server supernode has been created and is stopped, and you have the permission to start the supernode. After the startup, the supernode enters the running state, and you can access and use the services provided by the server. If the Lite Server supernode does not exist, is in the running state, or you do not have the operation permission, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

PUT /v1/{project_id}/dev-servers/hyperinstance/{id}/start

Table 10-259 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server supernode ID. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-260 Response header parameters

Parameter	Type	Description
X-Request-Id	String	LinkTrace ID

Table 10-261 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
hps_cluster_id	String	**Definition**: Network ID of the supernode cluster. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
hps_id	String	**Definition**: Supernode ID. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
id	String	**Definition**: Lite Server supernode ID. **Constraints**: N/A. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A.
name	String	**Definition**: Instance name. **Constraints**: N/A **Range**: ^[-_.a-zA-Z0-9]{1,64}$ **Default Value**: N/A
order_id	String	**Definition**: Order ID. **Constraints**: N/A **Range**: ^[a-zA-Z0-9]{1,64}$ **Default Value**: N/A
status	String	**Definition**: Supernode instance status. **Constraints**: N/A **Range**: • **PROVISIONING**: The request for creating a supernode has been accepted, but the supernode is still being created. • **ACTIVE**: The supernode is active and its resources can be used. • **ERROR**: The supernode fails to be created. • **REIMAGING**: The OS of the supernode is being changed. • **TERMINATING**: Resources are being released. • **TERMINATED**: The supernode resources have been released and are no longer available. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
servers	Array of **ServerResponse** objects	**Definition**: List of supernode subnode instances. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
update_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 10-262 ServerResponse

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-263 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-264 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-265 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-266 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-267 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-268 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers/hyperinstance/{id}/start
```

Example Responses

Status code: 200

OK


```
{
  "create_at" : 1737100086697,
  "hps_cluster_id" : "6fba954e-0d5e-4abf-9d54-f344d1de4eaa",
  "hps_id" : "451163c7-1f69-45e3-b6fa-b0dbee766767",
  "id" : "b41f61ed-fc38-4a84-a65c-35dae14acbc0",
  "name" : "lite server-hps-60b2",
  "order_id" : "CS2501171547LQEI9",
  "servers" : [ {
    "category" : "HPS",
    "charging_mode" : "PRE_PAID",
    "cloud_server" : {
      "hps_id" : "451163c7-1f69-45e3-b6fa-b0dbee766767",
      "id" : "5ed6f141-4872-481b-b917-16b6c7b9366c",
      "type" : "HPS"
    },
    "create_at" : 1737100086698,
    "endpoints" : [ {
      "uri" : "10.1.0.76"
    } ],
    "flavor" : "kat3ne-16.96xlarge.8.800t.matrix-kf",
    "id" : "be6c8c8a-0322-4e90-9f51-f3639462aa87",
    "image" : {
      "image_id" : "59e58c02-8c52-42eb-87a9-3eb0a14d3343"
    },
    "key_pair_name" : "KeyPair-de42",
    "name" : "lite server-hps-60b2-2",
    "order_id" : "CS2501171547LQEI9",
    "server_hps" : {
      "id" : "b41f61ed-fc38-4a84-a65c-35dae14acbc0",
      "name" : "lite server-hps-60b2"
    },
    "status" : "STARTING",
    "subnet_id" : "018a995b-29af-4140-b396-939d9c80a92b",
    "update_at" : 1737342598459,
    "vpc_id" : "7980ccf4-44d0-42cc-a844-42e035379a38"
  }, {
    "category" : "HPS",
    "charging_mode" : "PRE_PAID",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "cloud_server" : {
    "hps_id" : "451163c7-1f69-45e3-b6fa-b0dbee766767",
    "id" : "cb8f5e9d-85b0-4cd7-ad30-cd06f05f5869",
    "type" : "HPS"
  },
  "create_at" : 1737100086697,
  "endpoints" : [ {
    "uri" : "10.1.0.64"
  } ],
  "flavor" : "kat3ne-16.96xlarge.8.800t.matrix-kf",
  "id" : "24988d23-a7d9-4210-bba4-e945a4c2cf28",
  "image" : {
    "image_id" : "59e58c02-8c52-42eb-87a9-3eb0a14d3343"
  },
  "key_pair_name" : "KeyPair-de42",
  "name" : "lite server-hps-60b2-1",
  "order_id" : "CS2501171547LQEI9",
  "server_hps" : {
    "id" : "b41f61ed-fc38-4a84-a65c-35dae14acbc0",
    "name" : "lite server-hps-60b2"
  },
  "status" : "STARTING",
  "subnet_id" : "018a995b-29af-4140-b396-939d9c80a92b",
  "update_at" : 1737193168118,
  "vpc_id" : "7980ccf4-44d0-42cc-a844-42e035379a38"
 } ],
 "status" : "ACTIVE",
 "update_at" : 1737185971586
}
```


Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

10.24 Stopping a Lite Server Supernode

Function

This API is used to stop a running Lite Server supernode. It is used when you need to stop a Lite Server supernode to save resources or perform maintenance. Before using this API, ensure that the Lite Server supernode has been created and is running or fails to be stopped, and you have the permission to stop the supernode. After the operation, the supernode is stopped and does not provide services. If the Lite Server supernode does not exist, is stopped, or you do not have the permission to stop the supernode, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

PUT /v1/{project_id}/dev-servers/hyperinstance/{id}/stop

Table 10-269 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server supernode ID. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-270 Response header parameters

Parameter	Type	Description
X-Request-Id	String	LinkTrace ID

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-271 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
hps_cluster_id	String	**Definition**: Network ID of the supernode cluster. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
hps_id	String	**Definition**: Supernode ID. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
id	String	**Definition**: Lite Server supernode ID. **Constraints**: N/A. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A.
name	String	**Definition**: Instance name. **Constraints**: N/A **Range**: ^[-_.a-zA-Z0-9]{1,64}$ **Default Value**: N/A
order_id	String	**Definition**: Order ID. **Constraints**: N/A **Range**: ^[a-zA-Z0-9]{1,64}$ **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Supernode instance status. **Constraints**: N/A **Range**: • **PROVISIONING**: The request for creating a supernode has been accepted, but the supernode is still being created. • **ACTIVE**: The supernode is active and its resources can be used. • **ERROR**: The supernode fails to be created. • **REIMAGING**: The OS of the supernode is being changed. • **TERMINATING**: Resources are being released. • **TERMINATED**: The supernode resources have been released and are no longer available. **Default Value**: N/A
servers	Array of **ServerResponse** objects	**Definition**: List of supernode subnode instances. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
update_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 10-272 ServerResponse

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-273 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-274 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-275 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-276 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-277 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-278 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers/hyperinstance/{id}/stop
```

Example Responses

Status code: 200

OK


```
{
  "create_at" : 1737100086697,
  "hps_cluster_id" : "6fba954e-0d5e-4abf-9d54-f344d1de4eaa",
  "hps_id" : "451163c7-1f69-45e3-b6fa-b0dbee766767",
  "id" : "b41f61ed-fc38-4a84-a65c-35dae14acbc0",
  "name" : "lite server-hps-60b2",
  "order_id" : "CS2501171547LQEI9",
  "servers" : [ {
    "category" : "HPS",
    "charging_mode" : "PRE_PAID",
    "cloud_server" : {
      "hps_id" : "451163c7-1f69-45e3-b6fa-b0dbee766767",
      "id" : "5ed6f141-4872-481b-b917-16b6c7b9366c",
      "type" : "HPS"
    },
    "create_at" : 1737100086698,
    "endpoints" : [ {
      "uri" : "10.1.0.76"
    } ],
    "flavor" : "kat3ne-16.96xlarge.8.800t.matrix-kf",
    "id" : "be6c8c8a-0322-4e90-9f51-f3639462aa87",
    "image" : {
      "image_id" : "59e58c02-8c52-42eb-87a9-3eb0a14d3343"
    },
    "key_pair_name" : "KeyPair-de42",
    "name" : "lite server-hps-60b2-2",
    "order_id" : "CS2501171547LQEI9",
    "server_hps" : {
      "id" : "b41f61ed-fc38-4a84-a65c-35dae14acbc0",
      "name" : "lite server-hps-60b2"
    },
    "status" : "STOPPING",
    "subnet_id" : "018a995b-29af-4140-b396-939d9c80a92b",
    "update_at" : 1737342598459,
    "vpc_id" : "7980ccf4-44d0-42cc-a844-42e035379a38"
  }, {
    "category" : "HPS",
    "charging_mode" : "PRE_PAID",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "cloud_server" : {
    "hps_id" : "451163c7-1f69-45e3-b6fa-b0dbee766767",
    "id" : "cb8f5e9d-85b0-4cd7-ad30-cd06f05f5869",
    "type" : "HPS"
  },
  "create_at" : 1737100086697,
  "endpoints" : [ {
    "uri" : "10.1.0.64"
  } ],
  "flavor" : "kat3ne-16.96xlarge.8.800t.matrix-kf",
  "id" : "24988d23-a7d9-4210-bba4-e945a4c2cf28",
  "image" : {
    "image_id" : "59e58c02-8c52-42eb-87a9-3eb0a14d3343"
  },
  "key_pair_name" : "KeyPair-de42",
  "name" : "lite server-hps-60b2-1",
  "order_id" : "CS2501171547LQEI9",
  "server_hps" : {
    "id" : "b41f61ed-fc38-4a84-a65c-35dae14acbc0",
    "name" : "lite server-hps-60b2"
  },
  "status" : "STOPPING",
  "subnet_id" : "018a995b-29af-4140-b396-939d9c80a92b",
  "update_at" : 1737193168118,
  "vpc_id" : "7980ccf4-44d0-42cc-a844-42e035379a38"
 } ],
 "status" : "ACTIVE",
 "update_at" : 1737185971586
}
```


Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

10.25 Mounting a Disk to a Lite Server

Function

This API is used to mount an additional disk to a Lite Server. It is used when you need to expand the storage space of a Lite Server to meet larger data storage requirements. Before using this API, ensure that the Lite Server has been created and is running or stopped, you have the permission to mount disks, and the specified disk exists and is not used by other servers. After the mounting, the disk is mounted to the Lite Server, and you can access and use the new storage space. If the Lite Server does not exist, the specified disk does not exist or is in use, or you do not have the required permission, the API returns an error message.

Constraints

Only for A3.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/dev-servers/{id}/attachvolume

Table 10-279 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server instance ID. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 10-280 Request body parameters

Parameter	Mandatory	Type	Description
volume_id	Yes	String	**Parameter description**: ID of the disk to be attached. **Constraints**: N/A. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$. **Default value * *: N/A.

Response Parameters

Status code: 200

Table 10-281 Response header parameters

Parameter	Type	Description
X-Request-Id	String	LinkTrace ID

Table 10-282 Response body parameters

Parameter	Type	Description
operation_id	String	**Parameter description**: operation ID. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.
operation_status	String	**Parameter description**: operation status. **Value Range**: ● Pending to be processed ● Running ● failed. -Success succeeded.
operation_type	String	**Parameter description**: operation type. **Value range: node_attach_volume

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers/{id}/attachvolume

{
  "volume_id" : "1e79eff7-c02b-4dfd-a0d6-f76c90d9b4e0"
}
```

Example Responses

Status code: 200

```
{
  "operation_id" : "b894b879-a3c0-49ee-b5cb-92202b2794e2",
  "operation_status" : "pending",
  "operation_type" : "node_attach_volume"
}
```

Status Codes

Status Code	Description
200	

Error Codes

See **Error Codes**.

10.26 Unmounting a Disk from a Lite Server

Function

This API is used to unmount a disk from a Lite Server. It is used when you need to release storage resources or reallocate disks. Before using this API, ensure that the Lite Server has been created and is running or stopped, you have the permission to unmount disks, and the specified disk has been mounted to the server. After the unmounting, the disk is unmounted from the Lite Server, and you can mount the disk to another server or perform other operations. If the Lite Server does not exist, the specified disk is not mounted to the server, or you do not have the required permission, the API returns an error message.

Constraints

Only for A3.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

DELETE /v1/{project_id}/dev-servers/{id}/detachvolume/{volume_id}

Table 10-283 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
id	Yes	String	**Definition**: Lite Server instance ID. **Constraints**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Range**: N/A **Default Value**: N/A
volume_id	Yes	String	**Definition**: ID of the disk to be detached **Constraints**: [a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12} **Range**: N/A **Default Value**: N/A

Request Parameters

None

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 10-284 Response body parameters

Parameter	Type	Description
operation_id	String	**Definition**: Operation ID. **Range**: [8, 36]
operation_status	String	**Definition**: Operation status. **Range**: [8, 36]
operation_type	String	**Definition**: Operation type. **Range**: [8, 36]
operation_error	**ServerOperationError** object	**Definition**: Error message.

Table 10-285 ServerOperationError

Parameter	Type	Description
code	String	**Definition**: Error code. **Range**: 8 to 36 characters
message	String	**Definition**: Error message. **Range**: 2 to 512 characters

Example Requests

None

Example Responses

Status code: 200

```
{
   "operation_id": "UUID",
   "operation_status": "running",
   "operation_type": "node_detach_volume",
}
```

Status Codes

Status Code	Description
200	

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

10.27 Binding an EIP to a Lite Server

Function

This API is used to bind an EIP to a Lite Server. It is used when you need to assign a fixed public IP address to a Lite Server so that the Lite Server can be accessed from the external network. Before using this API, ensure that the Lite Server has been created and is running, you have the permission to bind an EIP, and the specified EIP exists and is not used by other resources. After the binding, the EIP is bound to the Lite Server and the Lite Server can be accessed from the external network through the EIP. If the Lite Server does not exist, the Lite Server is stopped, the specified EIP does not exist or is in use, or you do not have the required permission, the API returns an error message.

Constraints

Only for A3.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/dev-servers/{id}/publicips

Table 10-286 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server ID. **Constraints**: Mandatory. **Range**: 1 to 64 characters. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

Table 10-287 Request body parameters

Parameter	Mandatory	Type	Description
public_ip_id	No	String	**Definition**: EIP ID. **Constraints**: Mandatory **Range**: 1 to 64 characters **Default Value**: N/A

Response Parameters

Status code: 200

Table 10-288 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-289 Response body parameters

Parameter	Type	Description
public_ips	Array of **ServerPublicIp** objects	**Definition**: Array of EIP information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-290 ServerPublicIp

Parameter	Type	Description
id	String	**Definition**: EIP ID. **Constraints**: Mandatory **Range**: 1 to 64 characters **Default Value**: N/A
address	String	**Definition**: EIP IP address. **Constraints**: Mandatory **Range**: 1 to 64 characters in standard IPv4 format. **Default Value**: N/A

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers/{id}/publicips
```

Example Responses

None

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

10.28 Query Bound EIPs

Function

This API is used to obtain the information about the EIP bound to the Lite Server. It is used when you need to view the EIP bound to the Lite Server and the detailed information. Before using this API, ensure that you have logged in to the system and have the permission to query the EIP, and the specified Lite Server exists. After the query, the API returns the details of the EIP bound to the Lite Server, including the EIP address, binding time, and status. If the Lite Server does not exist, the EIP is not bound to the Lite Server, or you do not have the required permission, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Constraints

Only for A3.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/{id}/publicips

Table 10-291 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server ID. **Constraints**: Mandatory. **Range**: 1 to 64 characters. **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-292 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-293 Response body parameters

Parameter	Type	Description
public_ips	Array of **ServerPublicIp** objects	**Definition**: Array of EIP information.

Table 10-294 ServerPublicIp

Parameter	Type	Description
id	String	**Definition**: EIP ID. **Constraints**: Mandatory **Range**: 1 to 64 characters **Default Value**: N/A
address	String	**Definition**: EIP IP address. **Constraints**: Mandatory **Range**: 1 to 64 characters in standard IPv4 format. **Default Value**: N/A

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/{id}/publicips
```

Example Responses

None

Status Codes

Status Code	Description
200	OK

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

10.29 Querying the Specification List

Function

This API is used to obtain information about all available resource specifications in the system. It is used when you need to know the available resource specifications so that you can select proper configurations when creating or adjusting a Lite Server instance. Before using this API, ensure that you have logged in to the system and have the permission to query specifications. After the query, the API returns information about all available resource specifications, including the specification ID, CPU, memory, and storage. If you do not have the required permission or the system does not have available resource specifications, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/flavors

Table 10-295 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-296 Query Parameters

Parameter	Mandatory	Type	Description
server_type	No	String	**Definition**: Service type **Constraints**: N/A **Range**: • **bms**: The resource type is Bare Metal Server (BMS). • **ecs**: The resource type is Elastic Cloud Server (ECS) • **hps**: The resource type is supernode server. **Default Value**: N/A
arch	No	String	**Definition**: The CPU architecture of the specification **Constraints**: N/A **Range**: • **X86** • **ARM** **Default Value**: N/A
charging_mode	No	String	**Definition**: The billing mode **Constraints**: N/A **Range**: • **PRE_PAID**: Yearly/Monthly • **POST_PAID**: Pay-per-use **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-297 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. **Constraints**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
data	Array of **ServerFlavorinstanceResponse** objects	Lite Server specifications.
pages	Integer	**Definition**: Total number of pages. **Constraints**: N/A **Default Value**: N/A
size	Integer	**Definition**: Number of records on each page. **Constraints**: N/A **Default Value**: N/A
total	Long	**Definition**: Total number of records. **Constraints**: N/A **Default Value**: N/A

Table 10-298 ServerFlavorinstanceResponse

Parameter	Type	Description
arch	String	**Definition**: CPU architecture. **Constraints**: N/A **Range**: • **X86**: The CPU architecture is x86. • **ARM**: The CPU architecture is Arm. **Default Value**: N/A
availability_zone	String	**Definition**: Partition name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
charging_mode	String	**Definition**: Billing mode. **Constraints**: N/A **Range**: • **PRE_PAID**: yearly/monthly • **POST_PAID**: pay-per-use **Default Value**: N/A
count	Integer	**Definition**: Quantity. **Constraints**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
flavor	String	**Definition**: Specification name. **Constraints**: N/A **Default Value**: N/A
flavor_type	String	**Definition**: Flavor type. **Constraints**: N/A **Default Value**: N/A
roce_num	Integer	**Definition**: Number of RoCEs. **Constraints**: N/A **Default Value**: N/A
server_type	String	**Definition**: Service type. **Constraints**: N/A **Range**: • **bms**: The resource type is Bare Metal Server (BMS). • **ecs**: The resource type is Elastic Cloud Server (ECS) • **hps**: The resource type is supernode server. **Default Value**: N/A
sku_code	String	**Definition**: Billing code. **Constraints**: N/A **Default Value**: N/A
specification	String	**Definition**: Flavor details. **Constraints**: N/A **Default Value**: N/A
status	String	**Definition**: Status. **Constraints**: N/A **Default Value**: N/A
is_sold_out	Boolean	**Definition**: Specifies whether it is sold out. **Constraints**: N/A. **Range**: • **true**: Sold out • **false**: Not sold out **Default Value**: **false**.

Status code: 400

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-299 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 10-300 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 10-301 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 500

Table 10-302 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/flavors
```

Example Responses

None

Status Codes

Status Code	Description
200	Accepted
400	Bad Request
401	Unauthorized
403	Forbidden
500	Server Internal Error

Error Codes

See **Error Codes**.

10.30 Obtaining the Resource Flavor List

Function

This API is used to obtain available resource specifications. It is used when you need to know the available resource specifications so that you can select proper configurations when creating or adjusting a Lite Server instance. Before using this API, ensure that you have logged in to the system and have the permission to query resource specifications. After the query, the API returns information about all available resource specifications, including the specification ID, CPU, memory, and storage. If you do not have the required permission or the system does not have available resource specifications, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/resource-flavors

Table 10-303 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Table 10-304 Query Parameters

Parameter	Mandatory	Type	Description
server_type	No	String	**Definition**: Service type. **Constraints**: N/A **Range** • **bms**: The resource type is Bare Metal Server (BMS). • **ecs**: The resource type is Elastic Cloud Server (ECS) • **hps**: The resource type is supernode server. **Default Value**: N/A
arch	No	String	**Definition**: CPU architecture of the flavor. **Constraints**: N/A **Range** • **X86**: The CPU architecture is x86. • **ARM**: The CPU architecture is Arm. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
charging_mode	No	String	**Definition**: CPU architecture of the flavor. **Constraints**: N/A **Range** • **X86**: The CPU architecture is x86. • **ARM**: The CPU architecture is Arm. **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-305 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. **Constraints**: N/A **Default Value**: N/A
data	Array of **ServerResourceFlavorInstanceResponse** objects	DevServer flavor list.
pages	Integer	**Definition**: Total number of pages. **Constraints**: N/A **Default Value**: N/A
size	Integer	**Definition**: Number of records on each page. **Constraints**: N/A **Default Value**: N/A
total	Long	**Definition**: Total number of records. **Constraints**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-306 ServerResourceFlavorInstanceResponse

Parameter	Type	Description
flavor	String	IaaS flavor name.
specification	String	Flavor specifications.
arch	String	Cloud server architecture.
server_type	String	Cloud server type.
sku_code	String	Flavor billing code.
charging_mode	String	Billing mode.
roce_num	Integer	NIC quantity.
count	Integer	Supernode instance nodes.
status	String	Server specifications status.
server_flavors	Array of **ServerFlavorInfo** objects	Available flavors for supernode scaling.
flavor_type	String	Compute PU type.
availability_zones	Array of **AvailabilityZoneResponse** objects	AZ and on-sale status.

Table 10-307 ServerFlavorInfo

Parameter	Type	Description
name	String	Server flavor name.

Table 10-308 AvailabilityZoneResponse

Parameter	Type	Description
id	String	AZ ID.
is_sold_out	Boolean	Flavor on-sale status.

Status code: 400

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-309 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 10-310 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 10-311 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 500

Table 10-312 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/resource-flavors
```

Example Responses

Status code: 200

Accepted


```
{
  "current" : 1,
  "data" : [ {
    "arch" : "ARM",
    "availability_zones" : [ {
      "id" : "cn-north-7c",
      "is_sold_out" : false
    }, {
      "id" : "cn-north-7b",
      "is_sold_out" : false
    }, {
      "id" : "cn-north-7a",
      "is_sold_out" : false
    } ],
    "charging_mode" : "COMMON",
    "count" : 1,
    "flavor" : "modelarts.bm.npu.arm.8snt9b3.d.physical",
    "flavor_type" : "ASCEND_SNT9B",
    "roce_num" : 8,
    "server_flavors" : [ {
      "name" : "kat2e.48xlarge.8.376t.physical"
    }, {
      "name" : "kat2e.48xlarge.8.400t.physical"
    } ],
    "server_type" : "ECS",
    "sku_code" : "modelarts.vm.cpu.2u.d",
    "specification" : "8*Snt9b3|8*64GB|192vcpus|768GiB"
  } ],
  "pages" : 1,
  "size" : 1,
  "total" : 1
}
```


Status Codes

Status Code	Description
200	Accepted
400	Bad Request
401	Unauthorized
403	Forbidden
500	Server Internal Error

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.31 Creating a RoCE Network

Function

This API is used to create a RoCE network in the system. It is used when you need to create a dedicated RoCE network for high-performance computing or low-latency applications. Before using this API, ensure that you have logged in to the system and have the permission to create a RoCE network, and the required network resources have been configured in the system. After the creation, a RoCE network is created, and details about the RoCE network are returned, including the network ID, subnet information, and configuration parameters. If you do not have the required permission, the system lacks necessary network resources, or the network configuration parameters are invalid, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/dev-servers/networks

Table 10-313 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 10-314 Request body parameters

Parameter	Mandatory	Type	Description
network_type	No	String	**Definition**: RoCE network type. **Constraints**: N/A **Range**: • **vxlan_roce** • **roce_v2** **Default Value**: N/A
physical_network	No	String	**Definition**: Physical network name. **Constraints**: ^[-_.a-zA-Z0-9]{1,64}$ **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

Table 10-315 Response body parameters

Parameter	Type	Description
network	**ServerRoceNetwork** object	**Definition**: Network details.

Table 10-316 ServerRoceNetwork

Parameter	Type	Description
id	String	**Definition**: RoCE network ID. **Range**: N/A
name	String	**Definition**: RoCE network name. **Range**: N/A
project_id	String	**Definition**: Project ID. **Range**: N/A
status	String	**Definition**: Status. **Definition**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
tenant_id	String	**Definition**: Tenant ID. **Range**: N/A
subnets	String	**Definition**: Subnet. **Range**: N/A
provider:network_type	String	**Definition**: RoCE network type. **Range**: N/A
provider:physical_network	String	**Definition**: Physical network. **Range**: N/A

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers/networks

{
  "network_type" : "vxlan_roce",
  "physical_network" : "roce_pod101"
}
```

Example Responses

Status code: 200

Definition: Network details

```
{
  "network" : {
    "id" : "11111cfe-7234-4105-8307-0f7eb8a0244c",
    "name" : "lite server_roce_pod101_0b15",
    "project_id" : "11111583c880d2362fd1c012d7bb14bf",
    "provider:network_type" : "vxlan_roce",
    "provider:physical_network" : "roce_pod101",
    "status" : "ACTIVE",
    "tenant_id" : "11111583c880d2362fd1c012d7bb14bf",
    "subnets" : "[\"11111d19-8a52-417e-9fef-aa88e68ac4a5\"]"
  }
}
```

Status Codes

Status Code	Description
200	**Definition**: Network details

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.32 Querying the Lite Server List of a Tenant

Function

This API is used to obtain all Lite Server instances of a specified tenant. It is used when you need to view the details of all Lite Server instances of a tenant for management and monitoring. Before using this API, ensure that you have logged in to the system and have the permission to query the Lite Server list of a tenant. After the query, the API returns the details of all Lite Server instances of the tenant, including the instance ID, name, status, and resource configuration. If you do not have the required permission or the tenant does not have Lite Server instances, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/all

Table 10-317 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

None

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 10-318 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. Value range: 1 to 2097152
data	Array of **ServerResponse** objects	**Definition**: Lite Server instance list.
pages	Integer	**Definition**: Total number of pages. Value range: 1 to 2097152
size	Integer	**Definition**: Number of records on each page. Maximum number of instances returned on each page. The value of this parameter directly affects the amount of returned data. You can adjust the value to optimize the query performance or increase the information volume of a single request. **Range**: 1 to 1024
total	Long	**Definition**: Total number of records. Total number of instances that meet the search criteria. This field is used to learn the overall data scale. **Range**: 1 to 2147483647

Table 10-319 ServerResponse

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-320 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-321 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-322 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-323 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-324 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-325 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Example Requests

None

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-evs-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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "server_type" : "ECS"
  },
  "name" : "EI-evs-1107",
  "status" : "CREATING",
  "update_at" : 1699348285077
 } ],
 "pages" : 1,
 "size" : 2,
 "total" : 2
}
```


Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

10.33 Querying Lite Server Image Details

Function

This API is used to obtain the details of a specified Lite Server image. It is used when you need to know the configuration and attributes of a Lite Server image so that you can select a proper image when creating or adjusting a Lite Server instance. Before using this API, ensure that you have logged in to the system and have the permission to query image details, and the specified image exists. After the query, the API returns the details of the specified Lite Server image, including the image ID, name, OS, version, and creation time. If you do not have the operation permission, the specified image does not exist, or the image ID is invalid, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

URI

GET /v1/{project_id}/dev-servers/images/{id}

Table 10-326 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Image ID. **Constraints**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-327 Response body parameters

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

Example Requests

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

Example Responses

None

Status Codes

Status Code	Description
200	**Definition**: Image details.

Error Codes

See **Error Codes**.

10.34 Querying the Lite Server Image List

Function

This API is used to obtain information about all available Lite Server images in the system. It is used when you need to know the available Lite Server images so that you can select a proper image when creating or adjusting a Lite Server instance. Before using this API, ensure that you have logged in to the system and have the permission to query images. After the query, the API returns information about all

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

available Lite Server images, including the image ID, name, and architecture type. If you do not have the permission to perform the operation or no image is available in the system, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/images

Table 10-328 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Table 10-329 Query Parameters

Parameter	Mandatory	Type	Description
server_type	No	String	**Definition**: Server type **Constraints**: N/A **Range**: • **BMS** • **ECS** • **HPS** **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
flavor_name	No	String	**Definition**: Specification name **Constraints**: ^.{1, 128}$ **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-330 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. **Range**: N/A
data	Array of **ServerImageResponse** objects	**Definition**: Lite Server image list.
pages	Integer	**Definition**: Total number of pages. **Range**: N/A
size	Integer	**Definition**: Number of records on each page. **Range**: N/A
total	Long	**Definition**: Total number of records. **Range**: N/A

Table 10-331 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

Example Requests

```
GET http://{endpoint}/v1/{project_id}/dev-servers/images
```

Example Responses

Status code: 200

OK


```
{
  "current" : 1,
  "data" : [ {
    "arch" : "ARM",
    "image_id" : "d7811cdb-b0c6-44fe-9931-1f3b2b6ef477",
    "name" : "ModelArts_Lite Server-Euler2.8_aarch64_CPU-20220913175531",
    "server_type" : "ECS",
    "status" : "ACTIVE"
  }, {
    "arch" : "X86",
    "image_id" : "83f4aa72-53ec-4806-85b5-3f84082ba964",
    "name" : "ModelArts_Lite Server-custom_x86_64_NPU-20230207093857",
    "server_type" : "ECS",
    "status" : "ACTIVE"
  } ],
  "pages" : 1,
  "size" : 2,
  "total" : 21
}
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

10.35 Querying the HyperInstance List of a Tenant

Function

This API is used to obtain information about all hyper instances of a specified tenant. It is used when you need to view the details of all hyper instances of a tenant for management and monitoring. Before using this API, ensure that you have logged in to the system and have the permission to query the hyper instance list of a tenant. After the query, the API returns the details of all hyper instances of the tenant, including the instance ID, name, status, and resource configuration. If you do not have the required permission or the tenant does not have hyper instances, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/hyperinstance/all

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-332 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-333 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
data	Array of **ServerHyperinstanceResponse** objects	**Definition**: Lite Server supernode instance list. **Constraints**: N/A. **Range**: N/A. **Default Value**: N/A.
pages	Integer	**Definition**: Total number of pages. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
size	Integer	**Definition**: Number of records on each page. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
total	Long	**Definition**: Total number of records. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 10-334 ServerHyperinstanceResponse

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
hps_cluster_id	String	**Definition**: Network ID of the supernode cluster. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
hps_id	String	**Definition**: Supernode ID. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
id	String	**Definition**: Lite Server supernode ID. **Constraints**: N/A. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A.
name	String	**Definition**: Instance name. **Constraints**: N/A **Range**: ^[-_.a-zA-Z0-9]{1,64}$ **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
order_id	String	**Definition**: Order ID. **Constraints**: N/A **Range**: ^[a-zA-Z0-9]{1,64}$ **Default Value**: N/A
status	String	**Definition**: Supernode instance status. **Constraints**: N/A **Range**: • **PROVISIONING**: The request for creating a supernode has been accepted, but the supernode is still being created. • **ACTIVE**: The supernode is active and its resources can be used. • **ERROR**: The supernode fails to be created. • **REIMAGING**: The OS of the supernode is being changed. • **TERMINATING**: Resources are being released. • **TERMINATED**: The supernode resources have been released and are no longer available. **Default Value**: N/A
servers	Array of **ServerResponse** objects	**Definition**: List of supernode subnode instances. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
update_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 10-335 ServerResponse

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
update_at	Long	**Definition**: Update time. **Range**: N/A
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-336 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-337 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-338 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-339 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-340 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-341 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/hyperinstance/all
```

Example Responses

Status code: 200

Definition: Supernode list


```
{
  "current" : 0,
  "data" : [ {
    "create_at" : 1731055875839,
    "hps_cluster_id" : "42669b79-da2f-4482-ad40-22f50442c9e7",
    "hps_id" : "33806b62-1c7b-4781-8d2c-411a042b86b8",
    "id" : "b4beacb6-4380-448c-a218-daa82cf03f5d",
    "name" : "lite server-hps",
    "order_id" : "CS2411081650G9B6Z",
    "servers" : [ {
      "charging_mode" : "PRE_PAID",
      "cloud_server" : {
        "hps_id" : "33806b62-1c7b-4781-8d2c-411a042b86b8",
        "id" : "50208d41-749e-4bce-95a9-47a850925d4e",
        "type" : "HPS"
      },
      "create_at" : 1731055875840,
      "endpoints" : [ {
        "service" : "SSH",
        "uri" : "10.1.0.98"
      } ],
      "flavor" : "kat3ne-8.48xlarge.8.800t.matrix",
      "id" : "278d70a9-2049-450a-bf6d-db02fe9f6634",
      "image" : {
        "image_id" : "86496e41-87c4-4779-9007-4f8f5c2a208f"
      },
      "key_pair_name" : "KeyPair-hps",
      "name" : "lite server-hps-1",
      "order_id" : "CS2411081650G9B6Z",
      "server_hps" : {
        "id" : "b4beacb6-4380-448c-a218-daa82cf03f5d",
        "name" : "lite server-hps"
      },
      "status" : "RUNNING",
      "update_at" : 1731209918651,
      "vpc_id" : "7980ccf4-44d0-42cc-a844-42e035379a38"
    } ],
    "status" : "ACTIVE",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "update_at" : 1731209918651
  } ],
  "pages" : 1,
  "size" : 10,
  "total" : 1
}
```

Status Codes

Status Code	Description
200	**Definition**: Supernode list

Error Codes

See **Error Codes**.

10.36 Scaling Out Lite Server Supernodes

Function

This API is used to increase the resource capacity of a Lite Server supernode. It is used when you need to improve the performance of a Lite Server supernode to support more loads or process more data. Before using this API, ensure that you have logged in to the system and have the permission to expand the supernode capacity, and the specified supernode exists and is running. After the scale-out, the resource capacity of the supernode is adjusted based on the specified specifications. You can use the increased resources immediately. If you do not have the required permission to perform the operation, the specified supernode does not exist, the supernode has reached the maximum capacity, or the specified scale-out specifications are invalid, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/dev-servers/hyperinstance/{id}/live-scale-up

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-342 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server supernode ID. **Constraints**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

Table 10-343 Request body parameters

Parameter	Mandatory	Type	Description
flavor	Yes	String	**Definition**: Server flavor name. **Constraints**: N/A **Range**: The value can contain 1 to 128 characters. Only letters, digits, and periods (.) are allowed. **Default Value**: N/A
root_volume	No	**EvsVolume** object	**Definition**: System disk information of the new server.
data_volume	No	**ServerDataVolume** object	**Definition**: Data disk information of the new server.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
image_id	Yes	String	**Definition**: Server image ID. **Constraints**: N/A **Range**: The value must be a string of 36 characters in UUID format. **Default Value**: N/A
userdata	No	String	**Definition**: Custom data to be injected into the instance during cloud server creation. Texts and text files can be injected. Example: Before base64 encoding: • Linux server: `#!/bin/bash` `echo user_test > /home/user.txt` After base64 encoding: • Linux server: `IyEvYmluL2Jhc2gKZWNobyB1c2VyX3Rlc3QgPiAvaG9tZS91c2VyLnR4dA==` For more information about user data injection, see **Injecting User Data**. You must be aware of the effects of **user_data**. You are responsible for the impact and risks. **Constraints**: • The content of **user_data** must be encoded with Base64. • The maximum size of the content to be injected (before encoding) is 32K. **Range**: N/A. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
key_pair_name	No	String	**Definition**: Key pair name used for logging in to the server. Select either **admin_pass** or **key_pair_name**. Note that supernodes can be created only using key pairs. **Constraints**: **admin_pass** and **key_pair_name** cannot exist at the same time. **Range**: The value can contain 1 to 64 characters. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed. **Default Value**: N/A

Table 10-344 EvsVolume

Parameter	Mandatory	Type	Description
size	No	Integer	**Definition**: System disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	No	String	**Definition**: System disk type, which indicates the storage type of the system disk. **Constraints**: N/A **Range**: • **ESSD**: extreme SSD • **GPSSD**: General-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-345 ServerDataVolume

Parameter	Mandatory	Type	Description
size	Yes	Integer	**Definition**: Data disk size. Storage space allocated to a data disk. **Constraints**: N/A **Range**: 100 to 32,768 GB **Default Value**: N/A
type	Yes	String	**Definition**: System disk type, which indicates the storage type of the data disk. **Constraints**: N/A **Range**: • **ESSD**: extreme SSD • **GPSSD**: General-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A
count	Yes	Integer	**Definition**: Number of data disks. Number of data disks allocated to an instance. **Constraints**: N/A **Range**: **1** to **8** **Default Value**: N/A

Response Parameters

Status code: 200

Table 10-346 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
hps_cluster_id	String	**Definition**: Network ID of the supernode cluster. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
hps_id	String	**Definition**: Supernode ID. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
id	String	**Definition**: Lite Server supernode ID. **Constraints**: N/A. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A.
name	String	**Definition**: Instance name. **Constraints**: N/A **Range**: ^[-_.a-zA-Z0-9]{1,64}$ **Default Value**: N/A
order_id	String	**Definition**: Order ID. **Constraints**: N/A **Range**: ^[a-zA-Z0-9]{1,64}$ **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Supernode instance status. **Constraints**: N/A **Range**: • **PROVISIONING**: The request for creating a supernode has been accepted, but the supernode is still being created. • **ACTIVE**: The supernode is active and its resources can be used. • **ERROR**: The supernode fails to be created. • **REIMAGING**: The OS of the supernode is being changed. • **TERMINATING**: Resources are being released. • **TERMINATED**: The supernode resources have been released and are no longer available. **Default Value**: N/A
servers	Array of **ServerResponse** objects	**Definition**: List of supernode subnode instances. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
update_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 10-347 ServerResponse

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-348 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-349 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-350 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-351 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-352 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-353 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers/hyperinstance/{id}/live-scale-up

{
  "flavor" : "kat3ne-32-800t.192xlarge.8.matrix",
  "image_id" : "f4059eb4-c2f5-46a8-9b33-6cbed5d3fc81",
  "key_pair_name" : "KeyPair-42c4",
  "root_volume" : {
    "size" : 200,
    "type" : "ESSD"
  }
}
```

Example Responses

Status code: 200

Supernode details

```
{
  "create_at" : 1731055875839,
  "hps_cluster_id" : "42669b79-da2f-4482-ad40-22f50442c9e7",
  "hps_id" : "33806b62-1c7b-4781-8d2c-411a042b86b8",
  "id" : "b4beacb6-4380-448c-a218-daa82cf03f5d",
  "name" : "lite server-hps",
  "order_id" : "CS2411081650G9B6Z",
  "servers" : [ {
    "charging_mode" : "PRE_PAID",
    "cloud_server" : {
      "hps_id" : "33806b62-1c7b-4781-8d2c-411a042b86b8",
      "id" : "50208d41-749e-4bce-95a9-47a850925d4e",
      "type" : "HPS"
    },
    "create_at" : 1731055875840,
    "endpoints" : [ {
      "service" : "SSH",
      "uri" : "10.1.0.98"
    } ],
    "flavor" : "kat3ne-8.48xlarge.8.800t.matrix",
    "id" : "278d70a9-2049-450a-bf6d-db02fe9f6634",
    "image" : {
      "image_id" : "86496e41-87c4-4779-9007-4f8f5c2a208f"
    },
    "key_pair_name" : "KeyPair-hps",
    "name" : "lite server-hps-1",
    "order_id" : "CS2411081650G9B6Z",
    "server_hps" : {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "id" : "b4beacb6-4380-448c-a218-daa82cf03f5d",
    "name" : "lite server-hps"
  },
  "status" : "RUNNING",
  "update_at" : 1731209918651,
  "vpc_id" : "7980ccf4-44d0-42cc-a844-42e035379a38"
 } ],
 "status" : "ACTIVE",
 "update_at" : 1731209918651
}
```

Status Codes

Status Code	Description
200	Supernode details

Error Codes

See **Error Codes**.

10.37 Scaling in Lite Server Supernodes

Function

This API is used to reduce the resource capacity of a Lite Server supernode. It is used when you need to reduce resource usage of Lite Server supernodes to reduce costs or optimize resource allocation. Before using this API, ensure that you have logged in to the system and have the permission to reduce the supernode capacity, and the specified supernode exists and is running. After the scale-in, the resource capacity of the supernode is adjusted based on the specified specifications. You can use the reduced resources immediately. If you do not have the required permission to perform the operation, the specified supernode does not exist, the supernode has reached the minimum capacity, or the specified scale-in specifications are invalid, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

URI

POST /v1/{project_id}/dev-servers/hyperinstance/{id}/live-scale-down

Table 10-354 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server supernode ID. **Constraints**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

Table 10-355 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	Supernode ID.
flavor	No	String	Flavor information.
server_ids	No	Array of strings	ID of the node to be deleted.
resource_flavor	No	String	Resource flavor.

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-356 Response body parameters

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
hps_cluster_id	String	**Definition**: Network ID of the supernode cluster. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
hps_id	String	**Definition**: Supernode ID. **Constraints**: N/A **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A
id	String	**Definition**: Lite Server supernode ID. **Constraints**: N/A. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Default Value**: N/A.
name	String	**Definition**: Instance name. **Constraints**: N/A **Range**: ^[-_.a-zA-Z0-9]{1,64}$ **Default Value**: N/A
order_id	String	**Definition**: Order ID. **Constraints**: N/A **Range**: ^[a-zA-Z0-9]{1,64}$ **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Supernode instance status. **Constraints**: N/A **Range**: • **PROVISIONING**: The request for creating a supernode has been accepted, but the supernode is still being created. • **ACTIVE**: The supernode is active and its resources can be used. • **ERROR**: The supernode fails to be created. • **REIMAGING**: The OS of the supernode is being changed. • **TERMINATING**: Resources are being released. • **TERMINATED**: The supernode resources have been released and are no longer available. **Default Value**: N/A
servers	Array of **ServerResponse** objects	**Definition**: List of supernode subnode instances. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
update_at	Long	**Definition**: Creation time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 10-357 ServerResponse

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-358 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-359 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-360 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-361 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-362 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-363 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers/hyperinstance/{id}/live-scale-down

{
  "flavor" : "kat3ne-8.48xlarge.8.800t.matrix-kf",
  "server_ids" : [ "9099cc0b-1dcc-46d3-b5b4-8c1c4cf51de8", "7d93ab97-1b52-4b52-8b4d-9d692512ee81",
"00e91787-0989-4c99-9321-ea37784ed949" ]
}
```

Example Responses

Status code: 200

The scale-in order is successful.

```
{
  "order_id" : "CS12345678912345",
  "servers" : [ ]
}
```

Status Codes

Status Code	Description
200	The scale-in order is successful.

Error Codes

See **Error Codes**.

10.38 Obtaining Operation Details

Function

This API is used to obtain the details of a specified operation. It is used when you need to know the execution status of an operation for troubleshooting or

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

operation audit. Before using this API, ensure that you have logged in to the system and have the permission to query the details of an operation, and the specified operation exists. After the query, the API returns the details of the specified operation, including the operation ID, operation type, execution status, start time, end time, and operation result. If you do not have the operation permission, the specified operation does not exist, or the operation ID is invalid, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/{id}/operation/{operation_id}

Table 10-364 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server instance ID. **Constraints**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Range**: N/A **Default Value**: N/A
operation_id	Yes	String	**Definition**: Operation ID. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-365 Response body parameters

Parameter	Type	Description
operation_id	String	**Definition**: Operation ID. **Range**: 8 to 36 characters
operation_status	String	**Definition**: Operation status. **Range**: 8 to 36 characters
operation_type	String	**Definition**: Operation type. **Range**: 8 to 36 characters
operation_error	**ServerOperationError** object	**Definition**: Error message.

Table 10-366 ServerOperationError

Parameter	Type	Description
code	String	**Definition**: Error code. **Range**: 8 to 36 characters
message	String	**Definition**: Error message. **Range**: 2 to 512 characters

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/{id}/operation/{operation_id}
```

Example Responses

Status code: 200

Definition: Operation details.

```
{
  "operation_id" : "UUID",
  "operation_status" : "running",
  "operation_type" : "node_detach_volume"
}
```

Status Codes

Status Code	Description
200	**Definition**: Operation details.

Error Codes

See **Error Codes**.

10.39 Querying the Supported Lite Server Scaling Specifications and Capacity Calculation

Function

This API is used to obtain supported scaling specifications of a Lite Server supernode and calculate the capacity. It is used when you need to know the scaling options supported by the Lite Server supernode so that you can select proper specifications when adjusting the supernode resources and evaluate the resource requirements after scaling. Before using this API, ensure that you have logged in to the system and have the permission to query the supernode scaling specifications, and the specified supernode exists. After the query, the API returns the list of supported scaling specifications and capacity calculation results, including the specification ID, CPU, memory, storage, and resource usage after scaling. If you do not have the required permission, the specified supernode does not exist, or no scaling specifications are available in the system, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/hyperinstance/{id}/scale-evaluations

Table 10-367 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server supernode ID. **Constraints**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-368 Response body parameters

Parameter	Type	Description
evaluations	Array of **ServerScaleEvaluation** objects	Flavor capacity retention.

Table 10-369 ServerScaleEvaluation

Parameter	Type	Description
is_sold_out	Boolean	Specifies whether a flavor is sold out.
flavor	String	Flavor information.
resource_flavor	String	Resource flavor.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/hyperinstance/{id}/live-scale-up
```

Example Responses

Status code: 200

Accepted

```
{
  "evaluations" : [ {
    "is_sold_out" : false,
    "flavor" : "physical.xx.8765",
    "resource_flavor" : "modelarts.bm.abc.arm.ei.d"
  } ]
}
```

Status Codes

Status Code	Description
200	Accepted

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.40 Querying the Logical Capacity Calculation Result of the hyperinstance-clusters Supernode

Function

This API is used to obtain the logical capacity calculation result of a specified hyper instance cluster. It is used when you need to know the resource usage and capacity planning of a supernode cluster for resource management and optimization. Before using this API, ensure that you have logged in to the system and have the permission to query the logical capacity of a supernode cluster, and the specified supernode cluster exists. After the query, the API returns the logical capacity calculation result of a specified supernode cluster, including the available capacity information. If you do not have the required permission to perform the operation, the specified supernode cluster does not exist, or the cluster ID is invalid, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/dev-servers/hyperinstance/cluster-capacity-evaluations

Table 10-370 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 10-371 Request body parameters

Parameter	Mandatory	Type	Description
hyperinstance_cluster_ids	No	Array of strings	Supernode cluster ID list.
flavor	No	String	Flavor name.
availability_zone	No	String	AZs.
resource_flavor	No	String	Resource flavor.

Response Parameters

Status code: 200

Table 10-372 Response body parameters

Parameter	Type	Description
capacities	Array of **ServerHpsClusterCapacity** objects	Capacity information list.

Table 10-373 ServerHpsClusterCapacity

Parameter	Type	Description
flavor	String	Flavor name.
availability_zone	String	AZ ID.
hyperinstance_cluster_id	String	Supernode cluster ID.
hyperinstance_cluster_name	String	Supernode cluster name.
resource_flavor	String	Resource flavor.
is_sold_out	Boolean	On-sale status.

Status code: 401

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-374 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 10-375 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 10-376 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers/hyperinstance/cluster-capacity-evaluations

{
  "hyperinstance_cluster_ids" : [ "a1b2c3d4-e5f6-7890-abcd-ef1234567890" ],
  "flavor" : "kat3ne-8.48xlarge.8.800t.matrix",
  "availability_zone" : "cn-east-3a",
  "resource_flavor" : "gpu.8xlarge"
}
```

Example Responses

Status code: 200

Capacity query result.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
  "capacities" : [ {
    "flavor" : "kat3ne-8.48xlarge.8.800t.matrix",
    "availability_zone" : "cn-east-3a",
    "hyperinstance_cluster_id" : "a1b2c3d4-e5f6-7890-abcd-ef1234567890",
    "hyperinstance_cluster_name" : "production-cluster-1",
    "resource_flavor" : "gpu.8xlarge",
    "is_sold_out" : true
  }, {
    "flavor" : "kat3ne-16.96xlarge.16.1600t.matrix",
    "availability_zone" : "cn-east-3b",
    "hyperinstance_cluster_id" : "b2c3d4e5-f6a7-8901-bcde-f23456789012",
    "hyperinstance_cluster_name" : "production-cluster-2",
    "resource_flavor" : "gpu.16xlarge",
    "is_sold_out" : true
  } ]
}
```


Status Codes

Status Code	Description
200	Capacity query result.
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See **Error Codes**.

10.41 Querying the Tor Information of an Instance

Function

This API is used to obtain the Top-of-Rack (Tor) switch information of a specified instance. It is used when you need to know the Tor switch connected to an instance for network configuration. Before using this API, ensure that you have logged in to the system and have the permission to query the Tor information of an instance, and the specified instance exists. After the query, the API returns the Tor information of the specified instance. If you do not have the operation permission, the specified instance does not exist, or the instance is not connected to the Tor switch, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/instance-physical-topologies

Table 10-377 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Table 10-378 Query Parameters

Parameter	Mandatory	Type	Description
id	No	String	**Definition**: Lite Server instance ID. **Constraints**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Range**: N/A **Default Value**: N/A
resource_id	No	String	**Definition**: Resource ID of the Lite Server instance. **Constraints**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$ **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

None

Response Parameters

Status code: 200

Table 10-379 Response body parameters

Parameter	Type	Description
servers	Array of **ServerPhyInfo** objects	**Definition**: Server list.

Table 10-380 ServerPhyInfo

Parameter	Type	Description
resource_id	String	**Definition**: Lite Server instance resource ID. **Range**: 8 to 36 characters.
network_nodes	Array of strings	**Definition**: TOR information. **Range**: Multiple IP addresses in IPv4 format.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/instance-physical-topologies?
id=3efd3a22-41da-41c3-970d-5b670909acd1
```

Example Responses

Status code: 200

Definition: Response body for querying the Tor information of an instance

```
{
  "servers" : [ {
    "resource_id" : "3efd3a22-41da-41c3-970d-5b670909acd1",
    "network_nodes" : [ "11.172.213.11", "11.172.213.12" ]
  } ]
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	**Definition**: Response body for querying the Tor information of an instance

Error Codes

See **Error Codes**.

10.42 Performing Operations on Lite Server Instances in Batches

Function

This API is used to perform unified operations, such as starting, stopping, restarting, or deleting Lite Server instances. It is used when you need to perform the same operation on multiple Lite Server instances, for example, stopping instances in batches during maintenance, restarting instances in batches after configuration update, or clearing unnecessary instances. Before using this API, ensure that the target Lite Server instance exists and you have the required operation permissions. After the operation, all specified Lite Server instances will be changed or removed according to the request, and related resources and configurations will be adjusted or cleared accordingly. If the target Lite Server instance does not exist, you do not have the operation permission, or the request parameters are incorrect, the API returns an error message.

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

URI

POST /v1/{project_id}/dev-servers/action

Table 10-381 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

Table 10-382 Request body parameters

Parameter	Mandatory	Type	Description
type	Yes	String	**Definition**: Batch operation type. **Constraints**: N/A. **Range**: • **START**: Lite Server instances are started in batches. • **STOP**: Lite Server instances are stopped in batches. • **REBOOT**: Lite Server instances are restarted in batches. • **CHANGEOS**: Lite Server OS images are changed in batches. • **REINSTALLOS**: Lite Server OS images are reinstalled in batches. • **DELETE**: Lite Server instances are deleted in batches. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
servers	Yes	Array of **BatchActionDevServerIds** objects	**Definition**: Lite Server ID list for batch operations.
extend_param	No	**ServerOsRequest** object	**Definition**: Parameters for changing and resetting the OS image of Lite Server instances in batches.

Table 10-383 BatchActionDevServerIds

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server instance ID. **Constraints**: N/A. **Range**: N/A. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-384 ServerOsRequest

Parameter	Mandatory	Type	Description
admin_pass	No	String	**Definition**: Password used for logging in to the server. Note that either **admin_pass** or **key_pair_name** must be specified for ECSs and BMSs and supernodes support only **key_pair_name**. **Constraints**: The password must: • Contain 8 to 26 characters. • Contain at least three of the following types: uppercase letters, lowercase letters, digits, and special characters (!@%-_=+[{}]:,./?). • Cannot be the username or the username spelled backwards. • Cannot contain root, administrator, or their reverse. **Range**: N/A **Default value**: N/A
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. This parameter is supported only when ECSs or BMSs are reset or their OSs are changed. Supernodes do not support this parameter.
image_id	No	String	**Definition**: Image ID. This parameter is mandatory when the OS is changed. **Constraints**: N/A **Range**: N/A **Default value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
user_data	No	String	**Definition**: Custom data to be injected into the instance during cloud server creation. Texts and text files can be injected. Example: Before base64 encoding: • Linux server: `#!/bin/bash` `echo user_test > /home/user.txt` After base64 encoding: • Linux server: `IyEvYmluL2Jhc2gKZWNobyB1c2VyX3Rlc3QgPiAvaG9tZS91c2VyLnR4dA==` For more information about user data injection, see **Injecting User Data**. You must be aware of the effects of **user_data**. You are responsible for the impact and risks. **Constraints**: • The content of **user_data** must be encoded with Base64. • The maximum size of the content to be injected (before encoding) is 32K. **Range**: N/A. **Default Value**: N/A.

Response Parameters

Status code: 200

Table 10-385 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. Value range: 1 to 2097152
data	Array of **ServerResponse** objects	**Definition**: Lite Server instance list.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
pages	Integer	**Definition**: Total number of pages. Value range: 1 to 2097152
size	Integer	**Definition**: Number of records on each page. Maximum number of instances returned on each page. The value of this parameter directly affects the amount of returned data. You can adjust the value to optimize the query performance or increase the information volume of a single request. **Range**: 1 to 1024
total	Long	**Definition**: Total number of records. Total number of instances that meet the search criteria. This field is used to learn the overall data scale. **Range**: 1 to 2147483647

Table 10-386 ServerResponse

Parameter	Type	Description
create_at	Long	**Definition**: Creation time. **Range**: N/A
update_at	Long	**Definition**: Update time. **Range**: N/A
charging_mode	String	**Definition**: Billing mode. **Range**: • **COMMON**: both yearly/monthly and pay-per-use • **POST_PAID**: pay-per-use • **PRE_PAID**: yearly/monthly
cloud_server	**CloudServer** object	**Definition**: Cloud service information.
endpoints_response	Array of **Endpoints** objects	**Definition**: Private IP address of the instance.
flavor	String	**Definition**: Instance flavor name. **Range**: ^.{1,128}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
id	String	**Definition**: Instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
key_pair_name	String	**Definition**: Key pair name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
name	String	**Definition**: Instance name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$
order_id	String	**Definition**: Order ID. **Range**: ^[a-zA-Z0-9]{1,64}$
server_image_response	**ServerImageResponse** object	**Definition**: Instance image information. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Instance status. Current running status of the instance, which is used to monitor the lifecycle and health status of the instance. **Range**: • **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 being started. • **START_FAILED**: Starting the instance failed. • **STOPPED**: The instance has been stopped. • **STOPPING**: The instance is being stopped. • **STOP_FAILED**: Stopping the instance failed. • **REBOOTING**: The instance is being restarted. • **REBOOT_FAILED**: Restarting the instance failed. • **CHANGINGOS**: The OS is being changed. • **CHANGINGOS_FAILED**: Changing the OS failed. • **REINSTALLINGOS**: The OS is being reinstalled. • **REINSTALLINGOS_FAILED**: Reinstalling the OS failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
vpc_id	String	**Definition**: ID of the VPC where the instance is located. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
endpoints	Array of **EndpointsRes** objects	**Definition**: Private IP address of the server.
volumes	Array of **ServerVolume** objects	**Definition**: Information about the mounted hard disk.
image	**ServerImageResponse** object	**Definition**: Server image information.
category	String	**Definition**: Server type. **Range**: • **HPS**: supernode server • **SPOD**: full-cabinet server • **SERVER**: single server
server_hps	**ServerHpsInfo** object	**Definition**: Information about the supernode to which the server belongs.
subnet_id	String	**Parameter description**: ID of the subnet where the instance is located. ** Value range: **:^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$.

Table 10-387 CloudServer

Parameter	Type	Description
id	String	**Definition**: Server resource ID or supernode's child node ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	String	**Definition**: Lite Server server type. **Range**: • **BMS**: Bare Metal Server • **ECS**: Elastic Cloud Server • **HPS**: Supernode server
hps_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
hps_ecs_id	String	**Definition**: Server resource ID of the supernode's child node. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-388 Endpoints

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: Whitelisted public IP addresses that are allowed to access notebook instances through SSH. By default, all IP addresses can access the notebook instances. If IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances. **Constraints**: N/A **Range**: 0 to 1,024 IP addresses **Default Value**: N/A
dev_service	String	**Definition**: Supported services. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extensions	Map<String,String>	**Definition**: App-specific URL for accessing the remote development mode of the app. It includes extended configurations of the application. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time. **Constraints**: N/A **Range**: 0 to 1,024 key pairs **Default Value**: N/A

Table 10-389 EndpointsRes

Parameter	Type	Description
allowed_access_ips	Array of strings	**Definition**: 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 IP addresses are specified, only the clients with the specified IP addresses can access the notebook instances.
dev_service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
ssh_keys	Array of strings	**Definition**: List of SSH key pairs. You can set multiple key pairs to access an SSH instance at the same time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
service	String	**Definition**: Method for accessing the notebook instance. **Range**: • **NOTEBOOK**: You can access notebook instances using HTTPS. • **SSH**: You can remotely access notebook instances through SSH.
uri	String	**Definition**: Private IP address of the instance. **Range**: N/A

Table 10-390 ServerVolume

Parameter	Type	Description
size	Integer	**Definition**: EVS disk size, which is the storage space allocated to the system disk. **Constraints**: N/A **Range**: 100 to 1,024 GB **Default Value**: N/A
type	String	**Definition**: Storage type, which can be a system disk or data disk. **Constraints**: N/A **Range** • **ROOT**: system disk • **DATA**: data disk **Default Value**: N/A
evs_type	String	**Definition**: EVS disk type. Storage type of the EVS disk. **Constraints**: N/A **Range** • **ESSD**: extreme SSD • **GPSSD**: general-purpose SSD • **SAS**: high I/O EVS disk • **SATA**: common I/O EVS disk • **SSD**: ultra-high I/O EVS disk **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
evs_id	String	**Definition**: ID of the EVS disk. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$

Table 10-391 ServerImageResponse

Parameter	Type	Description
arch	String	**Definition**: Architecture type of a server image. **Range**: • **ARM** • **X86**
image_id	String	**Definition**: Server image ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Server image name. **Constraints**: N/A **Range**: 1 to 256 characters **Default Value**: N/A
server_type	String	**Definition**: Server type. **Range**: • **BMS**: BMS • **ECS**: ECS • **HPS**: supernode server
status	String	**Definition**: Server image status. **Range**: • ACTIVE • INACTIVE

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-392 ServerHpsInfo

Parameter	Type	Description
id	String	**Definition**: Lite Server supernode instance ID. **Range**: ^[0-9a-f]{8}-[0-9a-f]{4}-[1-5][0-9a-f]{3}-[89ab][0-9a-f]{3}-[0-9a-f]{12}$
name	String	**Definition**: Lite Server supernode name. **Range**: ^[-_.a-zA-Z0-9]{1,64}$

Status code: 400

Table 10-393 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-394 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 10-395 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-396 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 10-397 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-398 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 500

Table 10-399 Response header parameters

Parameter	Type	Description
X-Request-Id	String	Link trace ID.

Table 10-400 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

```
post https://{endpoint}/v1/{project_id}/dev-servers/action

{
  "type" : "START",
  "servers" : [ {
    "id" : "b6dfd2ba-ac27-49cc-9fa5-750a1ad6342e"
  }, {
    "id" : "75751015-8929-434f-a346-c0c4c3afa547"
  } ]
}
```

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-evs-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-evs-1107",
    "status" : "CREATING",
    "update_at" : 1699348285077
  } ],
  "pages" : 1,
  "size" : 2,
  "total" : 2
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
500	Server Internal Error

Error Codes

See **Error Codes**.

10.43 Querying Lite Server Job Details

Function

This API is used to obtain the details of a specified Lite Server job. It is used when you need to view the execution status, configuration parameters, and log information of a Lite Server job. Before using this API, ensure that the target Lite Server job exists and you have the view permission. After the query, the API returns the details of the specified Lite Server job, including the job ID, status, creation time, execution time, configuration parameters, and logs. If the target Lite Server job does not exist or you do not have the required permission, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/jobs/{id}

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-401 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server job ID. **Constraints**: Mandatory. **Range**: 1 to 64 characters **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-402 Response body parameters

Parameter	Type	Description
create_at	String	**Definition**: Creation time. **Range**: N/A
update_at	String	**Definition**: Update time. **Range**: N/A
id	String	**Definition**: Task ID. **Range**: N/A
name	String	**Definition**: Task name. **Range**: N/A
type	String	**Definition**: Task template type. **Range**: **COMMON**, **SERVICE_DEPLOY**, and others.
status	String	**Definition**: Status. **Range**: **ACTIVE**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
items	Array of **DevServerJobItem** objects	**Definition**: Task instance list information.
tasks	Array of **DevServerTaskResponse** objects	**Definition**: Task details list.
template_id	String	**Definition**: Task template ID. **Range**: N/A
user_name	String	**Definition**: Information about the user who delivers the task. **Range**: N/A
abnormal_count	Integer	**Definition**: number of nodes where the task fails. **Range**: N/A
description	String	**Definition**: Description. **Range**: N/A

Table 10-403 DevServerJobItem

Parameter	Type	Description
type	String	**Definition**: Fine-grained task type. **Range**: **COMMON**, **DEVICE_LOG_COLLECT**, and others.
spec	Map<String,String>	**Definition**: Parameters required by the task.

Table 10-404 DevServerTaskResponse

Parameter	Type	Description
id	String	**Definition**: Task ID. **Range**: N/A.
server_id	String	DevServer ID.
server_name	String	DevServer name.
status	String	**Definition**: Task status. **Range**: **PROCESSING**, **SUCCESS**, **FAILED**, and **SKIPPED**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
cloud_server	Map<String,String>	Underlying ECS/BMS/HPS ID.
message	String	Output information.
create_at	String	Creation time.
update_at	String	Update time.

Example Requests

Query details about the job specified by **job_id**.

```
GET https://{endpoint}/v1/{project_id}/dev-servers/jobs/{job_id}

{ }
```

Example Responses

Status code: 200

OK

```
{
  "create_at" : 1757558550702,
  "update_at" : 1757558564458,
  "id" : "0319470a-7fad-452e-bff0-d3ba3bd83955",
  "name" : "software-query",
  "description" : "Query Huawei Cloud AI software.",
  "type" : "ASCEND_SOFTWARE_QUERY",
  "status" : "FINISHED",
  "items" : [ {
    "type" : "HDK_QUERY"
  } ],
  "tasks" : [ {
    "create_at" : 1757558550733,
    "update_at" : 1757558564470,
    "id" : "0319470a-2524-4b1e-bb91-09e776701d78",
    "server_id" : "3384bdb0-2d31-4fe9-946e-09e776701d78",
    "server_name" : "liteserver-a2-aiserver-test",
    "cloud_server" : {
      "id" : "0c12a47a-0103-4fdb-bf85-7a09a8f53ac9",
      "type" : "BMS"
    },
    "status" : "SUCCESS",
    "message" : "Driver: 24.1.0.3 | Firmware: 7.5.0.5.220"
  } ],
  "template_id" : "2b087a09-e90d-414c-9b15-ffec45e400e7",
  "user_name" : "modelarts_user",
  "abnormal_count" : 0
}
```

Status Codes

Status Code	Description
200	OK

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

10.44 Querying the Lite Server Job List

Function

This API is used to obtain the Lite Server job list and filter jobs by status and ID. It is used when you need to view the brief information about multiple Lite Server jobs. For example, you can use this API to obtain the jobs that meet the filter criteria during job status monitoring, troubleshooting, or routine management. Before using this API, ensure that you have the view permission. After the query, the API returns the Lite Server jobs that meet the search criteria, including the ID, status, and creation time. If you do not have the required permission or the request parameters are incorrect, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/jobs

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-405 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Table 10-406 Query Parameters

Parameter	Mandatory	Type	Description
id	No	String	**Definition**: Lite Server job ID. **Constraints**: None **Range**: 1 to 64 characters **Default Value**: N/A
name	No	String	**Definition**: Lite Server job name. **Constraints**: None **Range**: N/A **Default Value**: N/A
type	No	String	**Definition**: Lite Server job type. **Constraints**: None **Range**: N/A **Default Value**: N/A
status	No	String	**Definition**: Lite Server job status. **Constraints**: None **Range**: N/A **Default Value**: N/A
visible	No	Boolean	**Definition**: Visible or not. **Constraints**: bool **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

None

Response Parameters

Status code: 200

Table 10-407 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. **Range**: N/A
data	Array of DevServerJobListResponse objects	**Definition**: Job instance list.
pages	Integer	**Definition**: Total number of pages. **Range**: N/A
size	Integer	**Definition**: Number of records on each page. **Range**: N/A
total	Long	**Definition**: Total number of records. **Range**: N/A

Table 10-408 DevServerJobListResponse

Parameter	Type	Description
id	String	Task ID.
name	String	Task name.
user_name	String	Username.
description	String	Task description.
type	String	**Definition**: Task type. **Range**: **COMMON**, **SERVICE_DEPLOY**, and others.
status	String	**Definition**: Task status. **Range**: **PROCESSING**, **FINISHED**, and **DELETED**.
abnormal_count	Integer	Number of nodes where the task fails.
create_at	String	Creation time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
update_at	String	Update time.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/jobs

{ }
```

Example Responses

Status code: 200

OK

```
{
  "current" : 1,
  "data" : [ {
    "create_at" : 1749536420547,
    "update_at" : 1749536603947,
    "id" : "03af7361-5cba-44d4-b29b-4dcc5d9dff51",
    "name" : "software-upgrade-792a",
    "user_name" : "modelarts_user",
    "type" : "ASCEND_SOFTWARE_UPGRADE",
    "status" : "FINISHED",
    "abnormal_count" : 0
  }, {
    "create_at" : 1749523685137,
    "update_at" : 1749523899848,
    "id" : "62c89f77-fc81-45a8-9647-d6e457e73954",
    "name" : "diagnosis-81ef",
    "user_name" : "modelarts_user",
    "description" : "POC",
    "type" : "ASCEND_DIAGNOSIS",
    "status" : "FINISHED",
    "abnormal_count" : 0
  } ],
  "pages" : 1,
  "size" : 2,
  "total" : 2
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.45 Deleting Lite Server Jobs in Batches

Function

This API is used to remove multiple Lite Server jobs. It is used when multiple Lite Server jobs are completed, incorrectly configured, or resources need to be cleared. Before using this API, ensure that the target Lite Server job exists and you have the administrator permissions. After the deletion, the specified Lite Server job is permanently removed, and related resources and configurations are cleared. If the target Lite Server job does not exist, you do not have the required permission, or the request parameters are incorrect, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

DELETE /v1/{project_id}/dev-servers/jobs

Table 10-409 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 10-410 Request body parameters

Parameter	Mandatory	Type	Description
job_ids	No	Array of strings	ID list of DevServer tasks to be deleted.

Response Parameters

Status code: 200

Table 10-411 Response body parameters

Parameter	Type	Description
current	Integer	**Definition**: Current page number. **Range**: N/A
data	Array of DevServerJobListResponse objects	**Definition**: Job instance list.
pages	Integer	**Definition**: Total number of pages. **Range**: N/A
size	Integer	**Definition**: Number of records on each page. **Range**: N/A
total	Long	**Definition**: Total number of records. **Range**: N/A

Table 10-412 DevServerJobListResponse

Parameter	Type	Description
id	String	Task ID.
name	String	Task name.
user_name	String	Username.
description	String	Task description.
type	String	**Definition**: Task type. **Range**: **COMMON**, **SERVICE_DEPLOY**, and others.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Task status. **Range**: **PROCESSING**, **FINISHED**, and **DELETED**.
abnormal_count	Integer	Number of nodes where the task fails.
create_at	String	Creation time.
update_at	String	Update time.

Example Requests

```
DELETE https://{endpoint}/v1/{project_id}/dev-servers/jobs

{
  "job_ids" : [ "03af7361-5cba-44d4-b29b-4dcc5d9dff51", "62c89f77-fc81-45a8-9647-d6e457e73954" ]
}
```

Example Responses

Status code: 200

OK

```
{
  "current" : 1,
  "data" : [ {
    "create_at" : 1749536420547,
    "update_at" : 1749536603947,
    "id" : "03af7361-5cba-44d4-b29b-4dcc5d9dff51",
    "name" : "software-upgrade-792a",
    "user_name" : "modelarts_user",
    "type" : "ASCEND_SOFTWARE_UPGRADE",
    "status" : "FINISHED",
    "abnormal_count" : 0
  }, {
    "create_at" : 1749523685137,
    "update_at" : 1749523899848,
    "id" : "62c89f77-fc81-45a8-9647-d6e457e73954",
    "name" : "diagnosis-81ef",
    "user_name" : "modelarts_user",
    "description" : "POC",
    "type" : "ASCEND_DIAGNOSIS",
    "status" : "FINISHED",
    "abnormal_count" : 0
  } ],
  "pages" : 1,
  "size" : 2,
  "total" : 2
}
```

Status Codes

Status Code	Description
200	OK

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

10.46 Creating a Lite Server Task

Function

This API is used to create a Lite Server task. It is used when you need to start a development, test, or deployment task on the Lite Server. Before using this API, ensure that you have the permission to create a task and the task configuration parameters meet the requirements. After the creation, the Lite Server task is created, and the task ID and other related information are returned. If you do not have the required permission, the parameters are incorrect, or the system resources are insufficient, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/dev-servers/jobs

Table 10-413 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 10-414 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Name.
description	No	String	Description.
server_ids	Yes	Array of strings	The list of DevServer instance IDs.
type	Yes	String	**Definition**: Task template type. **Constraints**: ^[-_.a-zA-Z0-9]{1,64}$ **Range**: **COMMON**, **SERVICE_DEPLOY**, and others. **Default Value**: N/A.
is_reboot	No	Boolean	**Definition**: Specifies whether to restart the task after the task fails. **Constraints**: N/A. **Range**: **true** and **false**. **Default Value**: **false**.
items	Yes	Array of **DevServerJobItem** objects	Task instance list.

Table 10-415 DevServerJobItem

Parameter	Mandatory	Type	Description
type	Yes	String	**Definition**: Fine-grained task type. **Range**: **COMMON**, **DEVICE_LOG_COLLECT**, and others.
spec	No	Map<String,String>	**Definition**: Parameters required by the task.

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-416 Response body parameters

Parameter	Type	Description
create_at	String	**Definition**: Creation time. **Range**: N/A
update_at	String	**Definition**: Update time. **Range**: N/A
id	String	**Definition**: Task ID. **Range**: N/A
name	String	**Definition**: Task name. **Range**: N/A
type	String	**Definition**: Task template type. **Range**: **COMMON**, **SERVICE_DEPLOY**, and others.
status	String	**Definition**: Status. **Range**: **ACTIVE**.
items	Array of **DevServerJobItem** objects	**Definition**: Task instance list information.
tasks	Array of **DevServerTaskResponse** objects	**Definition**: Task details list.
template_id	String	**Definition**: Task template ID. **Range**: N/A
user_name	String	**Definition**: Information about the user who delivers the task. **Range**: N/A
abnormal_count	Integer	**Definition**: number of nodes where the task fails. **Range**: N/A
description	String	**Definition**: Description. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-417 DevServerJobItem

Parameter	Type	Description
type	String	**Definition**: Fine-grained task type. **Range**: **COMMON**, **DEVICE_LOG_COLLECT**, and others.
spec	Map<String,String>	**Definition**: Parameters required by the task.

Table 10-418 DevServerTaskResponse

Parameter	Type	Description
id	String	**Definition**: Task ID. **Range**: N/A.
server_id	String	DevServer ID.
server_name	String	DevServer name.
status	String	**Definition**: Task status. **Range**: **PROCESSING**, **SUCCESS**, **FAILED**, and **SKIPPED**.
cloud_server	Map<String,String>	Underlying ECS/BMS/HPS ID.
message	String	Output information.
create_at	String	Creation time.
update_at	String	Update time.

Example Requests

```
POST https://{endpoint}/v1/{project_id}/dev-servers/jobs

{
  "server_ids" : [ "66d210bc-023c-490a-8664-afd321a163ad" ],
  "type" : "HDK_UPGRADE",
  "items" : [ {
    "spec" : {
      "version" : "24.1.rc3.10"
    },
    "type" : "HDK_UPGRADE"
  } ],
  "name" : "hdk_upgrade_task",
  "description" : "Task description."
}
```

Example Responses

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

OK


```
{
  "create_at" : 1755005748201,
  "update_at" : 1755005931007,
  "id" : "64e004ec-6cb0-401f-a7c0-ec2557626b16",
  "name" : "hdk_upgrade_task",
  "description" : "Task description.",
  "type" : "ASCEND_SOFTWARE_UPGRADE",
  "status" : "FINISHED",
  "items" : [ {
    "spec" : {
      "version" : "24.1.rc3.10"
    },
    "type" : "HDK_UPGRADE"
  } ],
  "tasks" : [ {
    "create_at" : 1755005748201,
    "update_at" : 1755005931355,
    "id" : "64e004ec-ad30-4038-9af1-afd321a163ad",
    "server_id" : "66d210bc-023c-490a-8664-afd321a163ad",
    "server_name" : "liteserver-978c-00001",
    "cloud_server" : {
      "hps_ecs_id" : "e2cb187a-4c4d-495c-a5f8-3de83a4e44ce",
      "id" : "39aab8e4-add9-4c2a-8fb7-c3e477e23855",
      "type" : "HPS"
    },
    "status" : "SUCCESS",
    "message" : "the message"
  } ],
  "template_id" : "6f02d33b-a5d6-485c-8d73-480da5870512",
  "user_name" : "modelarts_user",
  "abnormal_count" : 0
}
```


Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

10.47 Obtaining the Lite Server Job Template List

Function

This API is used to obtain the list of available Lite Server job templates. It is used when you need to view available job templates and select a proper template to create a Lite Server task. After the query, the API returns all available Lite Server job templates, including the template ID, name, and description. If no template is available in the system, the API returns an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/jobs/templates

Table 10-419 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Table 10-420 Query Parameters

Parameter	Mandatory	Type	Description
id	No	String	**Definition**: ID of the DevServer job template. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Name of the DevServer job template. **Constraints**: The value can contain letters, digits, and hyphens (-). **Range**: N/A **Default Value**: N/A
type	No	String	**Definition**: Type of the DevServer job template. **Constraints**: The value can contain letters, digits, and hyphens (-). **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-421 Response body parameters

Parameter	Type	Description
current	Integer	Current page number.
data	Array of **DevServerTemplateListResponse** objects	Template list.
pages	Integer	Total number of pages.
size	Integer	Number of records on each page.
total	Long	Total number of records.

Table 10-422 DevServerTemplateListResponse

Parameter	Type	Description
id	String	Task template ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
name	String	Task template name.
description	String	Task template description.
type	String	**Definition**: Task template type. **Range**: **COMMON**, **LOG_COLLECT**, and others.
flavor_type	String	**Definition**: Flavor type. **Range**: **ASCEND_SNT9B**, **ASCEND_SNT9C**, and **ASCEND_GENERIC**.
params	Array of **TemplateParam** objects	Template parameters.

Table 10-423 TemplateParam

Parameter	Type	Description
name	String	Name.
description	String	Description.
value	String	Value.
visible	String	**Definition**: Specifies whether to display on the console. **Range**: **true** or **false**.
regex	String	Regular expression verification.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/jobs/templates

{ }
```

Example Responses

Status code: 200

OK

```
{
  "current" : 0,
  "data" : [ {
    "id" : "2b087a09-e90d-414c-9b15-ffec45e400e9",
    "type" : "ASCEND_SYSTEM_CONFIG",
    "flavor_type" : "ASCEND_GENERIC",
    "params" : [ {
      "description" : "Configure the RoCE network uplink ports properly and set up the parameter plane
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
network with correct IP addresses, subnet masks, and gateways.",
      "name" : "JOB_ITEM_RDMA_CONFIG",
      "regex" : "^[A-Za-z0-9-_]{1,128}$",
      "value" : "Parameter Plane Network Configuration",
      "visible" : "true"
    }, {
      "description" : "Detect and fix security vulnerabilities in the HCE2.0 system.",
      "name" : "JOB_ITEM_SYSTEM_FIX",
      "regex" : "^[A-Za-z0-9-_]{1,128}$",
      "value" : "System Bug Fixes",
      "visible" : "true"
    }, {
      "description" : "Timeout of RDMA_CONFIG job item",
      "name" : "TIMEOUT_RDMA_CONFIG",
      "regex" : "^[A-Za-z0-9-_]{1,128}$",
      "value" : "300",
      "visible" : "false"
    }, {
      "description" : "Timeout of SYSTEM_FIX job item",
      "name" : "TIMEOUT_SYSTEM_FIX",
      "regex" : "^[A-Za-z0-9-_]{1,128}$",
      "value" : "300",
      "visible" : "false"
    } ]
  } ],
  "pages" : 1,
  "size" : 10,
  "total" : 1
}
```


Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

10.48 Obtaining Lite Server Job Template Details

Function

This API is used to obtain the details of a specified Lite Server job template. It is used when you need to view the detailed configurations of a specified job template to learn about the parameter settings and usage description. After the query, the API returns the details of the specified template, including the template ID, name, description, and configuration parameters. If the target template does not exist, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/jobs/templates/{id}

Table 10-424 Path Parameters

Parameter	Mandatory	Type	Description
id	Yes	String	**Definition**: Lite Server task template ID. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-425 Response body parameters

Parameter	Type	Description
id	String	Template ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
name	String	Template name.
description	String	Template description.
cmd	String	Image execution command.
swr_path	String	Task image.
resources	String	Task specifications.
volumes	String	Volume.
volumes_mount	String	Volume mounting.
flavor_type	String	**Definition**: Flavor type. **Range**: **ASCEND_SNT9B**, **ASCEND_SNT9C**, and **ASCEND_GENERIC**.
timeout	String	Timeout interval of a task.
check_interval	String	Task polling period.
type	String	**Definition**: Task type. **Range**: **LOG_COLLECT**, **COMMON**, and others.
status	String	**Definition**: Template status. **Range**: **ACTIVE**.
params	Array of **TemplateParam** objects	Other template parameters.

Table 10-426 TemplateParam

Parameter	Type	Description
name	String	Name.
description	String	Description.
value	String	Value.
visible	String	**Definition**: Specifies whether to display on the console. **Range**: **true** or **false**.
regex	String	Regular expression verification.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/jobs/templates/{id}

{ }
```

Example Responses

Status code: 200

OK


```
{
  "id" : "2b087a09-e90d-414c-9b15-ffec45e400e9",
  "cmd" : "/root/script/start_system_config.sh",
  "swr_path" : "swr.cn-north-7.myhuaweicloud.com/atelier/aiserver_service_aarch64:ai_server-py_3.11-
hce_2.0.2506-aarch64-20251020164959-113183f",
  "resources" : "{\"limits\":{\"cpu\":\"250m\",\"memory\":\"512Mi\"},\"requests\":{\"cpu\":\"250m\",\"memory
\":\"512Mi\"}}",
  "volumes" : "[{\"hostPath\":{\"path\":\"/tmp\"},\"name\":\"tmp\"}]",
  "volumes_mount" : "[{\"mountPath\":\"/tmp\",\"name\":\"tmp\"}]",
  "flavor_type" : "ASCEND_GENERIC",
  "timeout" : "300",
  "check_interval" : "10",
  "type" : "ASCEND_SYSTEM_CONFIG",
  "status" : "ACTIVE",
  "params" : [ {
    "description" : "Configure the RoCE network uplink ports properly and set up the parameter plane
network with correct IP addresses, subnet masks, and gateways.",
    "name" : "JOB_ITEM_RDMA_CONFIG",
    "regex" : "^[A-Za-z0-9-_]{1,128}$",
    "value" : "Parameter Plane Network Configuration",
    "visible" : "true"
  }, {
    "description" : "Detect and fix security vulnerabilities in the HCE2.0 system.",
    "name" : "JOB_ITEM_SYSTEM_FIX",
    "regex" : "^[A-Za-z0-9-_]{1,128}$",
    "value" : "System Bug Fixes",
    "visible" : "true"
  }, {
    "description" : "Timeout of RDMA_CONFIG job item",
    "name" : "TIMEOUT_RDMA_CONFIG",
    "regex" : "^[A-Za-z0-9-_]{1,128}$",
    "value" : "300",
    "visible" : "false"
  }, {
    "description" : "Timeout of SYSTEM_FIX job item",
    "name" : "TIMEOUT_SYSTEM_FIX",
    "regex" : "^[A-Za-z0-9-_]{1,128}$",
    "value" : "300",
    "visible" : "false"
  } ]
}
```


Status Codes

Status Code	Description
200	OK

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

10.49 Obtaining the Lite Server Plug-in List

Function

This API is used to obtain the list of available Lite Server plug-ins. It is used when you need to view available plug-ins and select and install the required ones to extend Lite Server functions. Before using this API, ensure that you have the permission to view the plug-in list. After the query, the API returns all available Lite Server plug-ins, including the plug-in ID, name, version, and description. If you do not have the required permission or no plug-in is available, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/plugins

Table 10-427 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-428 Query Parameters

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: Lite Server plug-in name. **Constraints**: The value can contain letters, digits, and hyphens (-). **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-429 Response body parameters

Parameter	Type	Description
current	Integer	Current page number.
data	Array of **PluginResponse** objects	Data
pages	Integer	Total number of pages.
size	Integer	Page size.
total	Long	Total number of records.

Table 10-430 PluginResponse

Parameter	Type	Description
name	String	Plugin name.
infos	Array of **AIServerPlugin** objects	Plugin details.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-431 AIServerPlugin

Parameter	Type	Description
id	String	Service plugin ID.
version	String	Plugin version.
status	String	**Definition**: Plugin status. **Range**: **ACTIVE** and **INACTIVE**
url	String	Plugin link.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "current" : 1,
  "data" : [ {
    "infos" : [ {
      "id" : "68d860dd-6380-4a09-b484-b6cce6efb6ac",
      "status" : "ACTIVE",
      "url" : "https://abc.com/plugin",
      "version" : "1.1.0"
    } ],
    "name" : "NodeTaskHub"
  } ],
  "pages" : 1,
  "size" : 1,
  "total" : 1
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

10.50 Obtaining Software Information

Function

This API is used to query information about supported software. You can use **flavor_type** and **name** to filter software information. It is used when you need to know the software supported by the system and its details, for example, when you need to select a proper software version or configuration environment. Before using this API, ensure that you have the permission to view software information. After the query, the API returns the software list that meets the search criteria, including the software name, version, and type. If you do not have the required permission, the query parameters are incorrect, or no software that meets the search criteria exists in the system, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/software

Table 10-432 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-433 Query Parameters

Parameter	Mandatory	Type	Description
flavor_type	No	String	**Definition**: Lite Server specification type. **Constraints**: The value can contain letters, digits, and hyphens (-). **Range**: N/A **Default Value**: N/A
type	No	String	**Definition**: Lite Server software type. **Constraints**: The value can contain letters, digits, and hyphens (-). **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 10-434 Response body parameters

Parameter	Type	Description
data	Array of **SoftwareData** objects	All flavor types and supported software.

Table 10-435 SoftwareData

Parameter	Type	Description
flavor_type	String	**Definition**: Flavor type. **Range**: **ascend_snt9b**, **ascend_snt9b23**, and **ascend_generic**.
support	Array of **SoftwareSupport** objects	Information about all software supported by **flavor_type**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 10-436 SoftwareSupport

Parameter	Type	Description
type	String	**Definition**: Software name. **Range**: **ASCEND_HDK**, **CES_AGENT**, **ASCEND_CANN**, and **K8S_TOOLKITS**.
info	Array of **VersionInfo** objects	Software version information, including the software version number and software description.

Table 10-437 VersionInfo

Parameter	Type	Description
id	String	**Definition**: ID. **Range**: N/A.
version	String	Version.
description	String	Version description, which is displayed in the drop-down list on the frontend.
url	String	Download link.
status	String	**Definition**: Availability status. **Range**: **ACTIVE** and **INACTIVE**
file	Array of **File** objects	Software package list.

Table 10-438 File

Parameter	Type	Description
name	String	Software package name.
file	String	Software package and installation package.

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/software

{ }
```

Example Responses

Status code: 200

OK

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
  "data" : [ {
    "flavor_type" : "ASCEND_SNT9B",
    "support" : [ {
      "info" : [ {
        "description" : "Driver: 23.0.6 | Firmware: 7.1.0.9.220",
        "id" : "5a0f7b07-b4d7-4f7c-8290-617f3e4be8d0",
        "status" : "ACTIVE",
        "url" : "https://abc.com/hdk",
        "version" : "23.0.6"
      }, {
        "description" : "Driver: 24.1.0.3 | Firmware: 7.5.0.3.220",
        "id" : "af890aa4-4579-418a-83ca-d6e41398ca65",
        "status" : "ACTIVE",
        "url" : "https://abc.com/hdk",
        "version" : "24.1.0.3"
      } ],
      "type" : "ASCEND_HDK"
    } ]
  } ]
}
```


Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

11 Authorization Management

11.1 Viewing an Authorization List

Function

This API is used to view the authorization information.

This API applies to the following scenarios: When you need to know the current authorization status, review permission assignment, or manage permissions, you can use this API to view the authorization list. Before using this API, ensure that you have the permission to view authorization. After the query is complete, the authorization list is returned, including the authorized resources, authorization type, and authorization content. If you do not have the permission to view the authorization list or the authorization list does not exist, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v2/{project_id}/authorizations

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 11-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 11-2 Query Parameters

Parameter	Mandatory	Type	Description
sort_by	No	String	**Definition**: Sorting field **Constraints**: N/A **Range**: Enums: • **user_name**: IAM user • **create_time**: creation time **Default Value**: **user_name**
order	No	String	**Definition**: Sorting mode **Constraints**: N/A **Range**: Enums: • **ASC**: ascending order • **DESC**: descending order **Default Value**: **ASC**
limit	No	Integer	**Definition**: Maximum number of records returned on each page **Constraints**: N/A **Range**: [1, 1000] **Default Value**: **1000**
offset	No	Integer	**Definition**: Start page for pagination display **Constraints**: N/A **Range**: Non-negative integers **Default Value**: **0**

Request Parameters

None

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 11-3 Response body parameters

Parameter	Type	Description
total_count	Number	**Definition**: Total number of authorizations. **Range**: N/A
auth	Array of **AuthorizationResponse** objects	**Definition**: Authorization information list.

Table 11-4 AuthorizationResponse

Parameter	Type	Description
user_id	String	**Definition**: 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**. **Constraints**: N/A **Range**: The value must contain 3 to 32 characters. Letters, digits, and hyphens (-) are allowed. **Default Value**: N/A
type	String	**Definition**: Authorization type. **Agency** is recommended. **Constraints**: N/A **Range**: • **AGENCY**: agency • **CREDENTIAL**: access keys (AK/SK) **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
content	String	**Definition**: Authorization content. **Constraints**: • When the authorization type is agency, this field is the agency name. • When the authorization type is access key, this field is the access key ID (AK). **Range**: 0 to 64 **Default Value**: N/A
secret_key	String	**Definition**: Secret access key (SK). **Constraints**: This field is required only when the authorization type is access key. **Range**: The value must contain 40 characters. Letters and digits are allowed. **Default Value**: N/A
user_name	String	**Definition**: Username. **Constraints**: If **user_id** is set to **all-users**, all users will be displayed. **Range**: N/A **Default Value**: N/A
user_type	String	**Definition**: User type. **Constraints**: N/A **Range**: • **IAM**: IAM user. The **user_id** field is mandatory. • **FEDERATE**: federated user. The **user_name** field is mandatory, and the **user_id** field is not needed. • **GRANT**: agency. The **user_id** field is mandatory, and its value is the agency ID. • **ALL-USERS**: all users. The **user_id** field is mandatory, and its value is **all**. **Default Value**: **IAM**.
create_time	Long	**Definition**: Creation timestamp. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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
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.

This API applies to the following scenario: When IAM users need to be granted the permission to access ModelArts, the administrator can use this API to configure authorization. Before using this API, the administrator must have the Security Administrator permission configured in IAM, and access keys must be configured for the IAM users. After the authorization is configured, IAM users are granted the permission to access ModelArts resources so that they can use functions such as training management, development environment, data management, and real-

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

time services. If the administrator does not have the required permission or an IAM user does not exist, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v2/{project_id}/authorizations

Table 11-5 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 11-6 Request body parameters

Parameter	Mandatory	Type	Description
user_id	No	String	**Definition**: 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**. **Constraints**: N/A **Range**: The value must contain 3 to 32 characters. Letters, digits, and hyphens (-) are allowed. **Default Value**: N/A
type	No	String	**Definition**: Authorization type. **Agency** is recommended. **Constraints**: N/A **Range**: • **AGENCY**: agency • **CREDENTIAL**: access keys (AK/SK) **Default Value**: N/A
content	Yes	String	**Definition**: Authorization content. **Constraints**: • When the authorization type is agency, this field is the agency name. • When the authorization type is access key, this field is the access key ID (AK). **Range**: 0 to 64 **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
secret_key	No	String	**Definition**: Secret access key (SK). **Constraints**: This field is required only when the authorization type is access key. **Range**: The value must contain 40 characters. Letters and digits are allowed. **Default Value**: N/A
user_name	No	String	**Definition**: Username. **Constraints**: If **user_id** is set to **all-users**, all users will be displayed. **Range**: N/A **Default Value**: N/A
user_type	No	String	**Definition**: User type. **Constraints**: N/A **Range**: • **IAM**: IAM user. The **user_id** field is mandatory. • **FEDERATE**: federated user. The **user_name** field is mandatory, and the **user_id** field is not needed. • **GRANT**: agency. The **user_id** field is mandatory, and its value is the agency ID. • **ALL-USERS**: all users. The **user_id** field is mandatory, and its value is **all**. **Default Value**: **IAM**.

Response Parameters

Status code: 200

OK

None

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

This API applies to the following scenarios: When the access permission of a specified user needs to be revoked or the authorization of all users needs to be cleared during system maintenance, the administrator can use this API to do so. Before using this API, the administrator must have the permission to delete the authorization and specify the user whose authorization is to be deleted or delete the authorization of all users. After the deletion is complete, the authorization of the specified user will be removed, or the authorization of all users will be cleared.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Users cannot access related functions. If the user does not exist, the administrator does not have the operation permission, or the system detects that there is no administrator permission during authorization deletion of all users, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

DELETE /v2/{project_id}/authorizations

Table 11-7 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 11-8 Query Parameters

Parameter	Mandatory	Type	Description
user_id	No	String	**Definition**: User ID. If this parameter is set to **all**, the authorization of all IAM users will be deleted. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

None

Response Parameters

Status code: 200

OK

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
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 a ModelArts agency for ModelArts-dependent services, such as Object Storage Service (OBS), Software Repository for Container (SWR), and Intelligent EdgeFabric (IEF).

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

This API applies to the following scenarios: When you need to configure permissions for ModelArts to access services such as OBS, SWR, and IEF, you can use this API to create an agency. Before using this API, ensure that you have the permission to create an agency and have corresponding permissions in IAM. After the agency is created, ModelArts is authorized to access services such as OBS, SWR, and IEF for data storage, image pulling, model deployment, and other functions. If you do not have the permission to create an agency or dependent services have not been configured, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v2/{project_id}/agency

Table 11-9 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 11-10 Request body parameters

Parameter	Mandatory	Type	Description
agency_name_suffix	No	String	**Definition**: Suffix of the agency name. The agency name prefix is consistently to be **ma_agency**. For example, if the value of this parameter is **iam-user01**, the name of the created agency is **ma_agency_iam-user01**. The value of this parameter is left blank by default, indicating that an agency named **ma_agency** is created. **Constraints**: N/A **Range**: 0 to 50 **Default Value**: N/A

Response Parameters

Status code: 200

OK

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"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	OK
400	Bad request
401	Unauthorized
403	Forbidden
404	Not found

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

12 Workspace Management

12.1 Querying Details About a Workspace

Function

This API is used to query the details about a workspace.

This API is used when you need to view the configuration, status, or other information about a workspace. Before using this API, ensure that the workspace exists and you have the permission to view the workspace. After the query, the API returns the workspace details, including the workspace name, description, creation time, and status. If the workspace does not exist or you do not have the operation permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:workspace:get	Read	workspace *	-	-	-

URI

GET /v1/{project_id}/workspaces/{workspace_id}

Table 12-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
workspace_id	Yes	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 12-2 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: User token. It can be obtained by calling the IAM API. The token is the value of **X-Subject-Token** in the response header. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

Table 12-3 Response body parameters

Parameter	Type	Description
grants	Array of **grants** objects	**Definition**: Authorization user list. By default, this parameter is left blank. This parameter must be used with **auth_type** and takes effect only when **auth_type** is set to **INTERNAL**.
owner	String	**Definition**: Creator name. **Range**: N/A
auth_type	String	**Definition**: Authorization type. **Range**: • **PUBLIC**: accessible to tenants • **PRIVATE**: accessible only to the creator and tenant accounts • **INTERNAL**: accessible to the creator, tenant accounts, and specified IAM users. This parameter must be used with **grants**.
enterprise_project_id	String	**Definition** **Range**: N/A Enterprise project ID.
update_time	Integer	**Definition**: Last modification time (UTC). **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
create_time	Integer	**Definition**: Creation time (UTC). **Range**: N/A
enterprise_project_name	String	**Definition**: Enterprise project name. **Range**: N/A
name	String	**Definition**: Workspace name. The value can contain 4 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. **default** is the name of the default workspace reserved by the system. You are not allowed to create a workspace named **default**. **Range**: N/A
description	String	**Definition**: Workspace description. **Range**: N/A
id	String	**Definition**: Workspace ID, which is a 32-bit UUID generated by the system without hyphens (-). **Range**: N/A
status	String	**Definition**: Workspace status. **Range** • **CREATE_FAILED**: Creating the workspace failed. • **NORMAL**: The workspace is running properly. • **DELETING**: The workspace is being deleted. • **DELETE_FAILED**: Deleting the workspace failed.
status_info	String	**Definition**: Status description. This parameter is left empty by default. This parameter is used to show detailed information about a status. If a deletion failed, you can use this parameter to obtain the failure cause. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 12-4 grants

Parameter	Type	Description
user_id	String	**Definition**: User ID. Either this parameter or **user_name** must be configured. If both of them are available, user_id is preferred. **Range**: N/A.
user_name	String	**Definition**: Username. Either this parameter or **user_id** must be configured. **Range**: N/A.
user_type	String	**Definition** Authorized user type. **Constraints** This parameter is mandatory for federated users or agency users. **Range** **IAM**: IAM user **FEDERATE**: federated user **AGENCY**: agency user **Default value** **IAM**

Example Requests

```
GET https://{endpoint}/v1/{project_id}/workspaces/ccd05d1a553b4e188ea878e7dcb85e47
```

Example Responses

Status code: 200

The details about a workspace are obtained.

```
{
  "id" : "**d05d1a553b4e188ea878e7dcb85e**",
  "name" : "test-workspace",
  "status" : "NORMAL",
  "status_info" : "",
  "description" : "",
  "owner" : "testUser",
  "create_time" : 1470000020000,
  "update_time" : 1470000030000,
  "enterprise_project_id" : "***b0091-887f-4839-9929-cbc884f1e***",
  "enterprise_project_name" : "test-eps",
  "auth_type" : "INTERNAL",
  "grants" : [ {
    "user_id" : "***55d2cd53b4x458ea878e7dcb85***",
    "user_name" : "test-iam-user",
    "user_type" : "IAM"
  } ]
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	The details about a workspace are obtained.

Error Codes

See **Error Codes**.

12.2 Modifying a Workspace

Function

This API is used to update the configuration information of a specified workspace.

This API is used when you need to change the name, description, or other configuration information of a workspace. Before using this API, ensure that the workspace exists and you have the permission to modify the workspace. After the modification is complete, the API returns the updated workspace details, including the workspace name, description, and update time. If the workspace does not exist or you do not have the operation permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:workspace:update	Write	workspace *	-	-	-

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

URI

PUT /v1/{project_id}/workspaces/{workspace_id}

Table 12-5 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
workspace_id	Yes	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

Table 12-6 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: User token. It can be obtained by calling the IAM API. The token is the value of **X-Subject-Token** in the response header. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 12-7 Request body parameters

Parameter	Mandatory	Type	Description
grants	No	Array of **grants** objects	**Definition**: Authorization user list. **Constraints**: This parameter is valid only when **auth_type** is set to **INTERNAL**. The value contains a maximum of 500 characters.
auth_type	No	String	**Definition**: Authorization type. **Constraints**: N/A **Range**: • **PUBLIC**: accessible to tenants • **PRIVATE**: accessible only to the creator and tenant accounts • **INTERNAL**: accessible to the creator, tenant accounts, and specified IAM users. This parameter must be used with **grants**. **Default Value**: **PUBLIC**
name	No	String	**Definition**: Workspace name.**Constraints**: Enter 4 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. **default** is the name of the default workspace reserved by the system. You are not allowed to create a workspace named **default**.**Range**: N/A**Default Value**: N/A
description	No	String	**Definition**: Workspace description. **Constraints**: The value can contain at most 256 characters. **Range**: N/A **Default Value**: This parameter is left empty by default.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 12-8 grants

Parameter	Mandatory	Type	Description
user_id	No	String	**Definition**: User ID. **Constraints**: If **user_type** is set to **IAM**, either **user_name** or **user_id** must be specified. **user_id** is recommended. This parameter is mandatory for agencies. This parameter is ignored for federated users. The response is automatically generated. **Range**: N/A. **Default Value**: N/A.
user_name	No	String	**Definition**: Username. **Constraints**: If **user_type** is set to **IAM**, either **user_id** or **user_name** must be specified. **user_id** is recommended. This parameter is mandatory for agencies and federated users. **Range**: N/A. **Default Value**: N/A.
user_type	No	String	**Definition** Authorized user type. **Constraints** This parameter is mandatory for federated users or agency users. **Range** **IAM**: IAM user **FEDERATE**: federated user **AGENCY**: agency user **Default Value** **IAM**

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 12-9 Response body parameters

Parameter	Type	Description
workspace_id	String	**Definition**: Workspace ID. **Range**: N/A

Example Requests

```
PUT https://{endpoint}/v1/{project_id}/workspaces/ccd05d1a553b4e188ea878e7dcb85e47

{
  "name" : "my_workspace",
  "description" : "It is my workspace",
  "auth_type" : "INTERNAL",
  "grants" : [ {
    "user_name" : "my_iam_user"
  } ]
}
```

Example Responses

Status code: 200

Response parameter indicating that a workspace is modified

```
{
  "workspace_id" : "***05d1a553b4e188ea878e7dcb85***"
}
```

Status Codes

Status Code	Description
200	Response parameter indicating that a workspace is modified

Error Codes

See **Error Codes**.

12.3 Deleting a Workspace

Function

This API is used to delete a created workspace.

This API applies to the following scenarios: When a workspace is no longer required, or resources need to be cleared, you can use this API to delete the specified workspace. Before using this API, ensure that the workspace exists and you have the permission to delete the workspace. After the deletion is complete, the workspace is permanently removed, and related resources are cleared. If the

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

workspace does not exist or you do not have the operation permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:workspace:delete	Write	workspace *	-	-	-

URI

DELETE /v1/{project_id}/workspaces/{workspace_id}

Table 12-10 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
workspace_id	Yes	String	**Definition**: Workspace ID. For details about how to obtain the ID, see **Querying the Workspace List**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

Table 12-11 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 12-12 Response body parameters

Parameter	Type	Description
workspace_id	String	**Definition**: Workspace ID. For details about how to obtain the value, see **Obtaining Workspaces**. **Range**: If no workspaces are available, there is no default value. If a workspace is created and used, use the actual value.

Example Requests

(Example) Deleting the workspace whose UUID is **ccd05d1a553b4e188ea878e7dcb85e47**

```
DELETE https://{endpoint}/v1/{project_id}/workspaces/ccd05d1a553b4e188ea878e7dcb85e47
```

Example Responses

Status code: 200

Response parameter indicating that a workspace is deleted

```
{
  "workspace_id" : "ccd05d1a553b4e188ea878e7dcb85e47"
}
```

Status Codes

Status Code	Description
200	Response parameter indicating that a workspace is deleted

Error Codes

See **Error Codes**.

12.4 Querying a Workspace Quota

Function

This API is used to obtain the resource quota of a specified workspace.

This API is used when you need to know the resource usage and quota limits of a workspace. Before using this API, ensure that the workspace exists and you have the permission to view the workspace quota. After the query, the API returns the

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

quota information of the workspace, including the quotas and used amounts of compute, storage, and network resources. If the workspace does not exist or you do not have the operation permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:workspace:getQuotas	Read	workspace *	-	-	-

URI

GET /v1/{project_id}/workspaces/{workspace_id}/quotas

Table 12-13 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
workspace_id	Yes	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

Table 12-14 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: User token. It can be obtained by calling the IAM API. The token is the value of **X-Subject-Token** in the response header. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

Table 12-15 Response body parameters

Parameter	Type	Description
quotas	Array of **WorkspaceQuotasResponse** objects	**Definition**: Workspace quota data.

Table 12-16 WorkspaceQuotasResponse

Parameter	Type	Description
max_quota	Integer	**Definition**: Maximum quota value. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
update_time	Integer	**Definition**: Last modification time (UTC). If the resource quota has not been modified, the default value is the time when a workspace was created. **Range**: N/A
resource	String	**Definition**: Unique ID of a resource. **Range**: N/A
quota	Integer	**Definition**: Current quota value. Value **-1** indicates that the quota is not limited. **Range**: N/A
min_quota	Integer	**Definition**: Minimum quota value. **Range**: N/A
name_cn	String	**Definition**: Quota name (Chinese) **Range**: N/A
unit_cn	String	**Definition**: Quantity unit (Chinese). **Range**: N/A
name_en	String	**Definition**: Quota name (English). **Range**: N/A
unit_en	String	**Definition**: Quantity unit (English). **Range**: N/A
used_quota	Integer	**Definition**: Used quota. If the value of **quota** is **-1** (indicating that the quota is not limited), the value of **used_quota** is **null**. **Range**: N/A

Example Requests

```
GET https://{endpoint}/v1/{project_id}/workspaces/ccd05d1a553b4e188ea878e7dcb85e47/quotas
```

Example Responses

Status code: 200

Response parameter indicating that a workspace quota is queried

```
{
  "quotas" : [ {
    "max_quota" : 60000,
    "update_time" : 1470000020000,
    "resource" : "exemlProject.gpu_duration",
    "used_quota" : 5,
    "quota" : 10,
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "min_quota" : -1,
    "name_cn" : "ExeML Training Duration (Image Classification, Object Detection, and Sound Classification)",
    "unit_cn" : "Minute",
    "name_en" : "ExeMLtraining duration (image classification, object detection, and soundclassification)",
    "unit_en" : "minute"
  } ]
}
```

Status Codes

Status Code	Description
200	Response parameter indicating that a workspace quota is queried

Error Codes

See **Error Codes**.

12.5 Modifying a Workspace Quota

Function

This API is used to update the resource quota of a specified workspace.

This API is used when you need to adjust the resource quota of a workspace, for example, increase or decrease the quota of compute, storage, or network resources. Before using this API, ensure that the workspace exists and you have the permission to modify the workspace quota. After the modification is complete, the API returns the updated quota information, including the new quotas of compute, storage, and network resources. If the workspace does not exist or you do not have the operation permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:workspace:updateQuotas	Write	workspace *	-	-	-

URI

PUT /v1/{project_id}/workspaces/{workspace_id}/quotas

Table 12-17 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
workspace_id	Yes	String	**Definition**: Workspace ID. If no workspaces are available, the default value is **0**. If a workspace is created and used, use the actual value. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 12-18 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: User token. It can be obtained by calling the IAM API. The token is the value of **X-Subject-Token** in the response header. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 12-19 Request body parameters

Parameter	Mandatory	Type	Description
quotas	Yes	Array of **quotas** objects	**Definition**: Workspace quota data. **Constraints**: N/A

Table 12-20 quotas

Parameter	Mandatory	Type	Description
resource	Yes	String	**Definition**: Resource identifier. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
quota	Yes	Integer	**Definition**: Quota value to be changed. The quota value is a positive integer or **-1**. Value **-1** indicates that the quota is not limited. The quota cannot exceed the maximum and minimum value. You can call the API to query the maximum quota. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 12-21 Response body parameters

Parameter	Type	Description
quotas	Array of **WorkspaceQuotasUpdateResponse** objects	**Definition**: Workspace quota data.

Table 12-22 WorkspaceQuotasUpdateResponse

Parameter	Type	Description
max_quota	Integer	**Definition**: Maximum quota value. **Range**: N/A
update_time	Integer	**Definition**: Last modification time (UTC). If the resource quota has not been modified, the default value is the time when a workspace was created. **Range**: N/A
resource	String	**Definition**: Unique ID of a resource. **Range**: N/A
quota	Integer	**Definition**: Current quota value. Value **-1** indicates that the quota is not limited. **Range**: N/A
min_quota	Integer	**Definition**: Minimum quota value. **Range**: N/A
name_cn	String	**Definition**: Quota name (Chinese). **Range**: N/A
unit_cn	String	**Definition**: Quantity unit (Chinese). **Range**: N/A
name_en	String	**Definition**: Quota name (English). **Range**: N/A
unit_en	String	**Definition**: Quantity unit (English). **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

```
PUT https://{endpoint}/v1/{project_id}/workspaces/ccd05d1a553b4e188ea878e7dcb85e47/quotas

{
  "quotas" : [ {
    "resource" : "exemlProject.gpu_duration",
    "quota" : 10
  } ]
}
```

Example Responses

Status code: 200

Response parameter indicating that a workspace quota is modified

```
{
  "quotas" : [ {
    "max_quota" : 60000,
    "update_time" : 1574339372000,
    "resource" : "exemlProject.gpu_duration",
    "quota" : 20,
    "min_quota" : -1,
    "name_cn" : "ExeML Training Duration (Image Classification, Object Detection, and Sound Classification)",
    "unit_cn" : "Minute",
    "name_en" : "ExeML training duration (image classification, object detection, and sound classification)",
    "unit_en" : "minute"
  } ]
}
```

Status Codes

Status Code	Description
200	Response parameter indicating that a workspace quota is modified

Error Codes

See **Error Codes**.

12.6 Querying a Workspace List

Function

This API is used to obtain the details of all created workspaces.

This API applies to the following scenario: When you need to view all available workspaces or perform audit, you can use this API to query the workspace list. Before using this API, ensure that you have the view permission. After the query is complete, the system returns all workspace details, including the name, creation time, and status. If you do not have the permission to perform operations, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:workspace:list	List	-	-	-	-

URI

GET /v1/{project_id}/workspaces

Table 12-23 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 12-24 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	**Definition**: Start page of the pagination list **Constraints**: N/A **Range**: The value must no less than 0 and no more than 2147483647. **Default Value**: **0**
limit	No	Integer	**Definition**: Maximum number of records displayed on each page **Constraints**: N/A **Range**: The value must no less than 1 and no more than 1000. **Default Value**: **1000**
sort_by	No	String	**Definition**: Sorting field **Constraints**: N/A **Range**: • **name**: workspace name • **update_time**: last modification time, in UTC format • **status**: workspace status **Default Value**: **name**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
order	No	String	**Definition**: Sorting mode **Constraints**: N/A **Range**: • **asc**: ascending order • **desc**: descending order **Default Value**: **desc**
enterprise_project_id	No	String	**Definition**: Enterprise project ID. If this parameter is specified, only the workspaces of the enterprise project are returned. By default, all workspaces are displayed. **Constraints**: N/A **Range**: The value can contain 36 characters. Letters, digits, and hyphens (-) are allowed. **Default Value**: N/A
name	No	String	**Definition**: Workspace name. If this parameter is specified, the fuzzy-match workspaces are queried. By default, all workspaces are displayed. **Constraints**: N/A **Range**: The value can contain 1 to 64 characters. Letters, digits, hyphens (-), and underscores (_) are allowed. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
filter_accessible	No	Boolean	**Definition**: Whether accessible workspaces are filtered **Constraints**: N/A **Range**: • **false**: All workspaces are displayed. • **true**: Workspaces that the current user does not have permission to access are filtered. **Default Value**: **false**

Request Parameters

Table 12-25 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 12-26 Response body parameters

Parameter	Type	Description
total_count	Integer	**Definition**: Total number of workspaces. **Range**: N/A
count	Integer	**Definition**: Number of workspaces returned for the current request. **Range**: The value must be no less than **0** and no more than the value of **limit**.
workspaces	Array of **WorkspaceResponse** objects	**Definition**: **workspace** parameters.

Table 12-27 WorkspaceResponse

Parameter	Type	Description
owner	String	**Definition**: Creator name **Range**: The value can contain 4 to 64 characters. Letters, digits, hyphens (-), and underscores (_) are allowed.
auth_type	String	**Definition**: Authorization type **Range**: • **PUBLIC**: accessible to tenants • **PRIVATE**: accessible only to the creator and primary account • **INTERNAL**: accessible to the creator, primary account, and specified IAM users. This parameter must be used together with **grants**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
enterprise_project_id	String	**Definition**: Enterprise project ID **Range**: ID of an enabled enterprise project. The value contains 36 characters. Letters, digits, and hyphens (-) are allowed.
update_time	Integer	**Definition**: Last modification time, in UTC format **Range**: N/A
create_time	Integer	**Definition**: Creation time, in UTC format **Range**: N/A
enterprise_project_name	String	**Definition**: Enterprise project name **Range**: Name of the enterprise project corresponding to the response parameter **enterprise_project_id**
name	String	**Definition**: Workspace name **Range**: The value can contain 4 to 64 characters. Letters, digits, hyphens (-), and underscores (_) are allowed.
description	String	**Definition**: Workspace description **Range**: The value can contain 0 to 256 characters. It cannot contain the following special characters: < > = & " ' /

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	**Definition**: Workspace status **Range**: • **CREATE_FAILED**: The workspace creation fails. • **NORMAL**: The workspace is running properly. • **DELETING**: The workspace is being deleted. • **DELETE_FAILED**: Deleting the workspace failed.
status_info	String	**Definition**: Status description. By default, this parameter is left blank. This parameter is used to show detailed information about a status. If a deletion failed, you can use this parameter to obtain the failure cause. **Range**: N/A

Example Requests

Filtering the records whose enterprise project ID is **0**, sorting the records by **name** in descending order, and obtaining a record on the fourth page in pagination mode

```
GET https://{endpoint}/v1/{project_id}/workspaces?
limit=1&offset=3&sort_by=name&order=desc&enterprise_project_id=0
```

Example Responses

Status code: 200

Response parameter indicating that workspaces are obtained

```
{
  "total_count" : 1,
  "count" : 1,
  "workspaces" : [ {
    "id" : 0,
    "name" : "default",
    "description" : "",
    "owner" : "testUser",
    "enterprise_project_id" : "***b0091-887f-4839-9929-cbc884f1e***",
    "enterprise_project_name" : "default",
    "auth_type" : "public",
    "create_time" : 1460000010000,
    "update_time" : 1460000010000,
    "status" : "NORMAL",
    "status_info" : ""
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
 }]
}
```

Status Codes

Status Code	Description
200	Response parameter indicating that workspaces are obtained

Error Codes

See **Error Codes**.

12.7 Creating a Workspace

Function

This API is used to create a workspace. The name of the created workspace cannot be **default**, which is the name of the default workspace reserved by the system.

This API applies to the following scenarios: When you need to create independent workspaces for different service objectives, teams, or projects, you can use this API to create new workspaces. Before using this API, ensure that you have the permission to create a workspace and the workspace name is not in use and is not **default**. After the workspace is created, the system allocates a default access control policy to the workspace. You can develop, manage, and deploy models in the workspace. If the workspace name already exists, the workspace name is **default**, or you do not have the operation permission, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
modelarts:workspace:create	Write	workspace *	-	-	-

URI

POST /v1/{project_id}/workspaces

Table 12-28 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 12-29 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 12-30 Request body parameters

Parameter	Mandatory	Type	Description
grants	No	Array of **grants** objects	**Definition**: list of authorized users. **Constraints**: This parameter is valid only when **auth_type** is set to **INTERNAL**. The value contains a maximum of 500 characters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
auth_type	No	String	**Definition**: authorization type. **Constraints**: N/A **Range**: • **PUBLIC**: accessible to tenants • **PRIVATE**: accessible only to the creator and tenant account • **INTERNAL**: accessible to the creator, tenant account, and specified IAM users. This parameter must be used with **grants**. **Default Value**: **PUBLIC**
enterprise_project_id	No	String	**Definition**: Enterprise project ID. If this parameter is specified, only the workspaces of the enterprise project are returned. By default, all workspaces are displayed. **Constraints**: N/A **Range**: ID of an enabled enterprise project. The value contains 36 characters. Letters, digits, and hyphens (-) are allowed. **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
name	Yes	String	**Definition**: Workspace name. **Constraints**: You are not allowed to create a workspace named **default**. **default** is the name of the default workspace reserved by the system. **Range**: The value can contain 4 to 64 characters. Letters, digits, hyphens (-), and underscores (_) are allowed. **Default Value**: N/A
description	No	String	**Definition**: Workspace description. **Constraints**: N/A **Range**: The value can contain 0 to 256 characters. It cannot contain the following special characters: < > = & " ' /. **Default Value**: It is left blank by default.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 12-31 grants

Parameter	Mandatory	Type	Description
user_id	No	String	**Definition**: User ID. For details, see **Obtaining a Username and ID**. **Constraints**: If **user_type** is set to **IAM**, either **user_name** or **user_id** must be specified. **user_id** is recommended. This parameter is mandatory for agencies. This parameter is ignored for federated users. The response is automatically generated. **Range**: N/A. **Default Value**: N/A.
user_name	No	String	**Definition**: Username. **Constraints**: If **user_type** is set to **IAM**, either **user_id** or **user_name** must be specified. **user_id** is recommended. This parameter is mandatory for agencies and federated users. **Range**: N/A. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
user_type	No	String	**Definition**: Authorized user type. **Constraints** This parameter is mandatory for federated users or agency users. **Range** **IAM**: IAM user **FEDERATE**: federated user **AGENCY**: agency user **Default Value** **IAM**

Response Parameters

Status code: 200

Table 12-32 Response body parameters

Parameter	Type	Description
owner	String	**Definition**: Creator name. **Range**: N/A
auth_type	String	**Definition**: Authorization type. **Range**: • **PUBLIC**: accessible to tenants • **PRIVATE**: accessible only to the creator and tenant account • **INTERNAL**: accessible to the creator, tenant account, and specified IAM users. This parameter must be used with **grants**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
enterprise_project_id	String	**Definition**: Enterprise project ID. **Range**: ID of an enabled enterprise project. The value contains 36 characters. Letters, digits, and hyphens (-) are allowed.
update_time	Integer	**Definition**: Last modification time, in UTC format **Range**: N/A
create_time	Integer	**Definition**: Creation time, in UTC format. **Range**: N/A
enterprise_project_name	String	**Definition**: Enterprise project name. **Range**: Name of the enterprise project corresponding to the response parameter **enterprise_project_id**
name	String	**Definition**: Workspace name. **Range**: The value can contain 4 to 64 characters. Letters, digits, hyphens (-), and underscores (_) are allowed.
description	String	**Definition**: Workspace description. **Range**: The value can contain 0 to 256 characters. It cannot contain the following special characters: < > = & " ' /.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
id	String	**Definition** Workspace ID. For details about how to obtain the value, see **Obtaining Workspaces**. If no workspace is created, the default value is **0**. If a workspace is created and used, use the actual value. **Range** The value is a 32-bit UUID generated by the system without hyphens (-).
status	String	**Definition**: Workspace status. **Range**: • **CREATE_FAILED**: Creating the workspace failed. • **NORMAL**: The workspace is running properly. • **DELETING**: The workspace is being deleted. • **DELETE_FAILED**: Deleting the workspace failed.
status_info	String	**Definition**: Status description. By default, this parameter is left blank. This parameter is used to show detailed information about a status. If a deletion failed, you can use this parameter to obtain the failure cause. **Range**: N/A
grants	Array of **grants** objects	**Definition**: List of authorized users. By default, this parameter is left blank. This parameter must be used with **auth_type** and takes effect only when **auth_type** is set to **INTERNAL**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 12-33 grants

Parameter	Type	Description
user_id	String	**Definition**: User ID. For details, see **Obtaining a Username and ID**. **Range**: N/A.
user_name	String	**Definition**: Username. **Range**: N/A.

Example Requests

The following is an example of how to create a workspace whose name is **test-workspace**, authorization type is **internal**, and authorized IAM user is **test**.

```
POST https://{endpoint}/v1/{project_id}/workspaces

{
  "name" : "test-workspace",
  "description" : "It is a test project",
  "enterprise_project_id" : "***b0091-887f-4839-9929-cbc884f1e***",
  "auth_type" : "internal",
  "grants" : [ {
    "user_name" : "test"
  } ]
}
```

Example Responses

Status code: 200

Response parameter indicating that a workspace is created

```
{
  "id" : "**d05d1a553b4e188ea878e7dcb85e**",
  "name" : "test-workspace",
  "description" : "It is a test project'",
  "owner" : "testUser",
  "create_time" : 1470000020000,
  "update_time" : 1470000030000,
  "enterprise_project_id" : "***b0091-887f-4839-9929-cbc884f1e***",
  "enterprise_project_name" : "test-eps",
  "auth_type" : "internal",
  "status" : "NORMAL",
  "status_info" : ""
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	Response parameter indicating that a workspace is created

Error Codes

See **Error Codes**.

12.8 Querying the Authorization Mode

Function

This API is used to obtain the authorization mode and permission configuration information of a specified resource or function. This API is used when system administrators can use this API to view the access permission settings of resources. Developers can use this API to verify whether authorization policies are correctly configured. Security auditors can use this API to check whether authorization configurations comply with security specifications. Before using this API, ensure that you have the query permission and the authorization mode of the target resource or function has been configured. After the API is called, the API returns details about the authorization mode, including the authorization mode type, rules, and permission scope. If you do not have the permission to access this API or the authorization mode of the target resource is not configured, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/auth-mode

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 12-34 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: User token. It can be obtained by calling the IAM API. The token is the value of **X-Subject-Token** in the response header. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

Table 12-35 Response body parameters

Parameter	Type	Description
domain_id	String	**Definition**: Account domain ID. **Range**: N/A
mode	String	**Definition**: Authorization mode. **Range** • **strict**: strict mode • **loose**: non-strict mode

Example Requests

None

Example Responses

Status code: 200

The authorization mode is queried.

```
{
  "domain_id" : "06024304b180d5090fbac00141b6cae0",
  "mode" : "loose"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	The authorization mode is queried.

Error Codes

See **Error Codes**.

12.9 Updating the Authorization Mode

Function

This API is used to modify the authorization mode and permission configuration information of a specified resource or function. This API is used when system administrators can use this API to adjust the access permission of resources. Developers can use this API to update authorization policies to meet new service requirements. Security auditors can use this API to modify authorization configurations to comply with new security specifications. Before using this API, ensure that you have the update permission and the authorization mode of the target resource or function exists. After the API is called, the API updates the authorization mode of the target resource and returns the updated authorization mode information. If you do not have the permission to access this API or the authorization mode of the target resource does not exist, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

PUT /v1/auth-mode

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 12-36 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 12-37 Request body parameters

Parameter	Mandatory	Type	Description
mode	Yes	String	**Definition**: Update mode type. **Range** • **strict**: strict mode • **loose**: non-strict mode

Response Parameters

Status code: 200

Table 12-38 Response body parameters

Parameter	Type	Description
domain_id	String	**Definition**: Account domain ID. **Range**: N/A
mode	String	**Definition**: Authorization mode. **Range** • **strict**: strict mode • **loose**: non-strict mode

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

Update to strict mode.

```
POST https://{endpoint}/v1/auth-mode

{
  "mode" : "strict"
}
```

Example Responses

Status code: 200

Response body for querying the authorization mode.

```
{
  "domain_id" : "06024304b180d5090fbac00141b6cae0",
  "mode" : "strict"
}
```

Status Codes

Status Code	Description
200	Response body for querying the authorization mode.

Error Codes

See **Error Codes**.

12.10 Authenticating Whether the Current Workspace Can Be Used

Function

This API is used to check whether a user has the permission to access and use resources in the current workspace. This API is used when you try to access or operate resources in the workspace, and the system needs to check whether you have the required permission. Before using this API, ensure that you have logged in and the workspace exists. If the authentication is successful, the user can access and use resources in the workspace. If the authentication fails, the API returns an error message, for example, insufficient permissions or the workspace does not exist.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/workspaces/{workspace_id}/auth

Table 12-39 Path Parameters

Parameter	Mandatory	Type	Description
workspace_id	Yes	String	**Definition**: Workspace ID. For details about how to obtain the value, see **Obtaining Workspaces**. If no workspace is created, the default value is **0**. If a workspace is created and used, use the actual value. **Constraints**: N/A **Range**: N/A **Default Value**: **0**
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 12-40 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: Requests for calling an API can be authenticated using either a token or AK/SK. If token-based authentication is used, this parameter is mandatory and must be set to a user token. For details, see **Obtaining a User Token**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 12-41 Request body parameters

Parameter	Mandatory	Type	Description
requests	Yes	Array of **AuthRequests** objects	**Definition**: Workspace authentication request body.

Table 12-42 AuthRequests

Parameter	Mandatory	Type	Description
action_id	Yes	String	**Definition**: Random UUID, which is used for locating. **Range**: N/A
action	Yes	String	**Definition**: Fine-grained action. **Range**: N/A
resource	No	String	**Definition**: Resource ID. **Range**: N/A
service_attributes	No	Map<String,String>	**Definition**: Operation object. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 12-43 Response body parameters

Parameter	Type	Description
results	Array of **ValidateAuthResults** objects	**Definition**: Authentication result.

Table 12-44 ValidateAuthResults

Parameter	Type	Description
action	String	**Definition**: Fine-grained permission. **Range**: N/A
verdict	String	**Definition**: Authentication result. **Range** • **allow**: Authenticated. • **deny**: Authentication failed.
action_id	String	**Definition**: Random UUID, which is used to locate faults. **Range**: N/A
resource	String	**Definition**: Request resource. **Range**: N/A
cause	Array of **Cause** objects	**Definition**: Failure cause.

Table 12-45 Cause

Parameter	Type	Description
policy_name	String	**Definition**: Policy name. **Range**: N/A
condition	Array of **Conditions** objects	**Definition**: Policy condition.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 12-46 Conditions

Parameter	Type	Description
key	String	**Definition**: Operation attribute. **Range**: N/A
operator	String	**Definition**: Operator. **Range**: N/A
value	Array of strings	**Definition**: Operator value.

Example Requests

Authenticate whether the current user can perform operations in the current workspace.

```
POST https://{endpoint}/v1/{projectId}/workspaces/{workspaceId}/auth

{
  "requests" : [ {
    "action_id" : "cf6ad5b9_bd73_4354_b663_364348597e29",
    "action" : "modelarts:trainJob:get"
  } ]
}
```

Example Responses

Status code: 200

Response body for workspace authentication.

```
{
  "results" : [ {
    "action" : "modelarts:trainJob:get",
    "verdict" : "allow",
    "action_id" : "cf6ad5b9_bd73_4354_b663_364348597e29",
    "resource" : null,
    "cause" : null
  } ]
}
```

Status Codes

Status Code	Description
200	Response body for workspace authentication.

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

12.11 Querying the User Role Information

Function

This API is used to obtain the role information of a specified user in the system. This API is used when you need to know the permissions and roles of a user in the system. The administrator or system can use this API to query the role information of the user. Before using this API, ensure that the user exists and the role information is defined in the system. After the query, the API returns the role list of the user. If the user does not exist or the role information is not defined in the system, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/workspaces/users/roles

Table 12-47 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 12-48 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: User token. It can be obtained by calling the IAM API. The token is the value of **X-Subject-Token** in the response header. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

Table 12-49 Response body parameters

Parameter	Type	Description
roles	Array of strings	**Definition**: User role.

Example Requests

None

Example Responses

Status code: 200

Query the user role information.

```
{
  "roles" : [ "gray_workspace" ]
}
```

Status Codes

Status Code	Description
200	Query the user role information.

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

12.12 Obtaining the User List

Function

This API is used to obtain the user list in the system. This API is used when you need to view all users in the system or filter users based on specific conditions. The administrator or system can use this API to query the user list. Before using this API, ensure that the user exists and the query permission is granted. After the query, the API returns the list of users that meet the query conditions. If no user exists in the system or the query user does not have the required permission, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/workspaces/users/list

Table 12-50 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 12-51 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: User token. It can be obtained by calling the IAM API. The token is the value of **X-Subject-Token** in the response header. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

Table 12-52 Response body parameters

Parameter	Type	Description
users	Array of **UserName** objects	**Definition**: Authorization object list.

Table 12-53 UserName

Parameter	Type	Description
userName	String	**Definition**: Authorization object name. **Range**: N/A

Example Requests

None

Example Responses

Status code: 200

Query the user role information.

```
{
  "users" : [ {
    "userName" : "app"
  }, {
    "userName" : "authoring_system_user_cnnorth7"
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
}, {
  "userName" : "b30039842"
}, {
  "userName" : "c00685862"
}, {
  "userName" : "c30056551"
}, {
  "userName" : "chang001"
}, {
  "userName" : "chang002"
}, {
  "userName" : "chang003"
}, {
  "userName" : "chang1115661"
}, {
  "userName" : "changliang_op"
}, {
  "userName" : "cheng"
}, {
  "userName" : "container0-child1"
}, {
  "userName" : "container0-sub-account"
}, {
  "userName" : "css_zhangbo"
}, {
  "userName" : "ctz-test"
}, {
  "userName" : "cwx1115661"
}, {
  "userName" : "d00806778"
}, {
  "userName" : "dingxiaofang"
}, {
  "userName" : "EI_modelarts_CRT"
}, {
  "userName" : "f60070752"
}, {
  "userName" : "g00673948"
}, {
  "userName" : "gyy_test"
}, {
  "userName" : "h00583569"
}, {
  "userName" : "h00826983"
}, {
  "userName" : "h00862484"
}, {
  "userName" : "h30028740"
}, {
  "userName" : "hjh123"
}, {
  "userName" : "hwcloud"
}, {
  "userName" : "hwx1269195"
}, {
  "userName" : "icsltest"
}, {
  "userName" : "idm_system_user_cnnorth7"
}, {
  "userName" : "infers_system_async"
}, {
  "userName" : "infers_system_user_cnnorth7"
}, {
  "userName" : "j00812367"
}, {
  "userName" : "l00452072"
}, {
  "userName" : "l00455264"
}, {
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "userName" : "l00471224"
}, {
  "userName" : "l00557915"
}, {
  "userName" : "l00585022"
}, {
  "userName" : "l00636439"
}, {
  "userName" : "l30030601"
}, {
  "userName" : "l30036628"
}, {
  "userName" : "l30047428"
}, {
  "userName" : "l60070759"
}, {
  "userName" : "lhk_test"
}, {
  "userName" : "lishuai"
}, {
  "userName" : "liuqiqin"
}, {
  "userName" : "liutingjian"
}, {
  "userName" : "louleilei"
}, {
  "userName" : "lts_report"
}, {
  "userName" : "lts_system_user_cnnorth7"
}, {
  "userName" : "lts_system_user_ffk_test1_cnnorth7"
}, {
  "userName" : "lts_system_user_ffk_test_cnnorth7"
}, {
  "userName" : "lyj_container0"
}, {
  "userName" : "m00520383"
}, {
  "userName" : "m00520383-1"
}, {
  "userName" : "m00520383-2"
}, {
  "userName" : "m00520383-3"
}, {
  "userName" : "m00520383-4"
}, {
  "userName" : "m00520383-5"
}, {
  "userName" : "m00520383-6"
}, {
  "userName" : "m00520383-7"
}, {
  "userName" : "m005820383-5"
}, {
  "userName" : "maasuser"
}, {
  "userName" : "maozhonghao"
}, {
  "userName" : "market_system_user_cnnorth7"
}, {
  "userName" : "meitu_monitor"
}, {
  "userName" : "modelarts_for_cce_cn-southwest-1"
}, {
  "userName" : "modelarts_iac"
}, {
  "userName" : "modelarts_vias"
}, {
  "userName" : "model_resource_test"
```

```
}, {
  "userName" : "mtest"
}, {
  "userName" : "mzh"
}, {
  "userName" : "mzh01"
}, {
  "userName" : "n00521268"
}, {
  "userName" : "notebook_h00496293"
}, {
  "userName" : "obs_acl_test"
}, {
  "userName" : "obs_test"
}, {
  "userName" : "ops_readonly"
}, {
  "userName" : "op_svc_eiwizard_1_cn283"
}, {
  "userName" : "op_svc_eiwizard_1_cn302"
}, {
  "userName" : "op_svc_modelarts_ascendbrain"
}, {
  "userName" : "op_svc_modelarts_ccms_01041278"
}, {
  "userName" : "op_svc_modelarts_ccms_02eccd55"
}, {
  "userName" : "op_svc_modelarts_ccms_030e5d0c"
}, {
  "userName" : "op_svc_modelarts_ccms_03ebdbf3"
}, {
  "userName" : "op_svc_modelarts_ccms_049dd71b"
}, {
  "userName" : "op_svc_modelarts_ccms_04c09e9c"
}, {
  "userName" : "op_svc_modelarts_ccms_05de757e"
}, {
  "userName" : "op_svc_modelarts_ccms_07498d6b"
}, {
  "userName" : "op_svc_modelarts_ccms_074dffe1"
}, {
  "userName" : "op_svc_modelarts_ccms_07e36a67"
}, {
  "userName" : "op_svc_modelarts_ccms_08cf8e84"
}, {
  "userName" : "op_svc_modelarts_ccms_09037d36"
}, {
  "userName" : "op_svc_modelarts_ccms_09b7f9a4"
}, {
  "userName" : "op_svc_modelarts_ccms_0a06fc9a"
}, {
  "userName" : "op_svc_modelarts_ccms_0ae4209d"
}, {
  "userName" : "op_svc_modelarts_ccms_0c6551cb"
}, {
  "userName" : "op_svc_modelarts_ccms_0d4f79f3"
}, {
  "userName" : "op_svc_modelarts_ccms_0dc9215a"
}, {
  "userName" : "op_svc_modelarts_ccms_0e8f6397"
}, {
  "userName" : "op_svc_modelarts_ccms_0e99acc7"
}, {
  "userName" : "op_svc_modelarts_ccms_0edeab1e"
}, {
  "userName" : "op_svc_modelarts_ccms_106cfe37"
}, {
  "userName" : "op_svc_modelarts_ccms_109ee712"
}, {
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "userName" : "op_svc_modelarts_ccms_10bb25d4"
}, {
  "userName" : "op_svc_modelarts_ccms_111460c7"
}, {
  "userName" : "op_svc_modelarts_ccms_1221f7dc"
}, {
  "userName" : "op_svc_modelarts_ccms_12dfc1e8"
}, {
  "userName" : "op_svc_modelarts_ccms_1356c79b"
}, {
  "userName" : "op_svc_modelarts_ccms_1420b918"
}, {
  "userName" : "op_svc_modelarts_ccms_16fcdf7e"
}, {
  "userName" : "op_svc_modelarts_ccms_172abf17"
}, {
  "userName" : "op_svc_modelarts_ccms_176e06eb"
}, {
  "userName" : "op_svc_modelarts_ccms_181b633e"
}, {
  "userName" : "op_svc_modelarts_ccms_18c9bfc5"
}, {
  "userName" : "op_svc_modelarts_ccms_19304f0c"
}, {
  "userName" : "op_svc_modelarts_ccms_19c20332"
}, {
  "userName" : "op_svc_modelarts_ccms_19e0445c"
}, {
  "userName" : "op_svc_modelarts_ccms_1b39b55b"
}, {
  "userName" : "op_svc_modelarts_ccms_1b9ca426"
}, {
  "userName" : "op_svc_modelarts_ccms_1bd30674"
}, {
  "userName" : "op_svc_modelarts_ccms_1d519f9c"
}, {
  "userName" : "op_svc_modelarts_ccms_2139a897"
}, {
  "userName" : "op_svc_modelarts_ccms_21cdb7c4"
}, {
  "userName" : "op_svc_modelarts_ccms_22a155ce"
}, {
  "userName" : "op_svc_modelarts_ccms_26fa1765"
}, {
  "userName" : "op_svc_modelarts_ccms_27661da7"
}, {
  "userName" : "op_svc_modelarts_ccms_28058750"
}, {
  "userName" : "op_svc_modelarts_ccms_298d4724"
}, {
  "userName" : "op_svc_modelarts_ccms_29a7901d"
}, {
  "userName" : "op_svc_modelarts_ccms_2cfd4b00"
}, {
  "userName" : "op_svc_modelarts_ccms_2d0c1da5"
}, {
  "userName" : "op_svc_modelarts_ccms_2d30759a"
}, {
  "userName" : "op_svc_modelarts_ccms_2d8be4f7"
}, {
  "userName" : "op_svc_modelarts_ccms_2dc37431"
}, {
  "userName" : "op_svc_modelarts_ccms_2e746e0e"
}, {
  "userName" : "op_svc_modelarts_ccms_2e80c082"
}, {
  "userName" : "op_svc_modelarts_ccms_2f0031ba"
}, {
  "userName" : "op_svc_modelarts_ccms_2f3d99a1"
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
}, {
  "userName" : "op_svc_modelarts_ccms_2f79010e"
}, {
  "userName" : "op_svc_modelarts_ccms_2ff17420"
}, {
  "userName" : "op_svc_modelarts_ccms_303b82a9"
}, {
  "userName" : "op_svc_modelarts_ccms_303f6fb2"
}, {
  "userName" : "op_svc_modelarts_ccms_3062c643"
}, {
  "userName" : "op_svc_modelarts_ccms_313a4b52"
}, {
  "userName" : "op_svc_modelarts_ccms_33622806"
}, {
  "userName" : "op_svc_modelarts_ccms_3473481b"
}, {
  "userName" : "op_svc_modelarts_ccms_3519098d"
}, {
  "userName" : "op_svc_modelarts_ccms_382ebe07"
}, {
  "userName" : "op_svc_modelarts_ccms_38c1ba4c"
}, {
  "userName" : "op_svc_modelarts_ccms_38ca944f"
}, {
  "userName" : "op_svc_modelarts_ccms_3934f2b7"
}, {
  "userName" : "op_svc_modelarts_ccms_39e41870"
}, {
  "userName" : "op_svc_modelarts_ccms_3a880868"
}, {
  "userName" : "op_svc_modelarts_ccms_3c27a087"
}, {
  "userName" : "op_svc_modelarts_ccms_3c850eaf"
}, {
  "userName" : "op_svc_modelarts_ccms_40adfc93"
}, {
  "userName" : "op_svc_modelarts_ccms_4260e66a"
}, {
  "userName" : "op_svc_modelarts_ccms_42f56fb4"
}, {
  "userName" : "op_svc_modelarts_ccms_43f0ccc9"
}, {
  "userName" : "op_svc_modelarts_ccms_44f02b77"
}, {
  "userName" : "op_svc_modelarts_ccms_45e62da5"
}, {
  "userName" : "op_svc_modelarts_ccms_471d1b77"
}, {
  "userName" : "op_svc_modelarts_ccms_47481805"
}, {
  "userName" : "op_svc_modelarts_ccms_47a521b5"
}, {
  "userName" : "op_svc_modelarts_ccms_497ed750"
}, {
  "userName" : "op_svc_modelarts_ccms_49afde36"
}, {
  "userName" : "op_svc_modelarts_ccms_4aa153dd"
}, {
  "userName" : "op_svc_modelarts_ccms_4b7a3ae8"
}, {
  "userName" : "op_svc_modelarts_ccms_4c3f851c"
}, {
  "userName" : "op_svc_modelarts_ccms_4db0825b"
}, {
  "userName" : "op_svc_modelarts_ccms_513b5bb4"
}, {
  "userName" : "op_svc_modelarts_ccms_53462f1c"
}, {
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "userName" : "op_svc_modelarts_ccms_53e71b8b"
}, {
  "userName" : "op_svc_modelarts_ccms_53f8c46f"
}, {
  "userName" : "op_svc_modelarts_ccms_57b92bfc"
}, {
  "userName" : "op_svc_modelarts_ccms_5803e413"
}, {
  "userName" : "op_svc_modelarts_ccms_58d012d5"
}, {
  "userName" : "op_svc_modelarts_ccms_59043269"
}, {
  "userName" : "op_svc_modelarts_ccms_59abe2ec"
}, {
  "userName" : "op_svc_modelarts_ccms_59f4aacf"
}, {
  "userName" : "op_svc_modelarts_ccms_5a49a369"
}, {
  "userName" : "op_svc_modelarts_ccms_5b6241df"
}, {
  "userName" : "op_svc_modelarts_ccms_5c89a3c5"
}, {
  "userName" : "op_svc_modelarts_ccms_5e1831cc"
}, {
  "userName" : "op_svc_modelarts_ccms_5ec419f9"
}, {
  "userName" : "op_svc_modelarts_ccms_5fbf6d3e"
}, {
  "userName" : "op_svc_modelarts_ccms_606b71d7"
}, {
  "userName" : "op_svc_modelarts_ccms_6076337e"
}, {
  "userName" : "op_svc_modelarts_ccms_60a6676a"
}, {
  "userName" : "op_svc_modelarts_ccms_61fa63de"
}, {
  "userName" : "op_svc_modelarts_ccms_6221c8de"
}, {
  "userName" : "op_svc_modelarts_ccms_6222695d"
}, {
  "userName" : "op_svc_modelarts_ccms_62686f16"
}, {
  "userName" : "op_svc_modelarts_ccms_62952be3"
}, {
  "userName" : "op_svc_modelarts_ccms_631e8611"
}, {
  "userName" : "op_svc_modelarts_ccms_636ff114"
}, {
  "userName" : "op_svc_modelarts_ccms_637ce379"
}, {
  "userName" : "op_svc_modelarts_ccms_645a9908"
}, {
  "userName" : "op_svc_modelarts_ccms_65106afb"
}, {
  "userName" : "op_svc_modelarts_ccms_679d0dfd"
}, {
  "userName" : "op_svc_modelarts_ccms_67f3223f"
}, {
  "userName" : "op_svc_modelarts_ccms_6992e840"
}, {
  "userName" : "op_svc_modelarts_ccms_6992fc13"
}, {
  "userName" : "op_svc_modelarts_ccms_6a2c6886"
}, {
  "userName" : "op_svc_modelarts_ccms_6a88cf15"
}, {
  "userName" : "op_svc_modelarts_ccms_6ac9c9e4"
}, {
  "userName" : "op_svc_modelarts_ccms_6b2938eb"
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
}, {
  "userName" : "op_svc_modelarts_ccms_6b32d7d1"
}, {
  "userName" : "op_svc_modelarts_ccms_6c2a72a3"
}, {
  "userName" : "op_svc_modelarts_ccms_6d3d199f"
}, {
  "userName" : "op_svc_modelarts_ccms_6db96db5"
}, {
  "userName" : "op_svc_modelarts_ccms_6e8fdc22"
}, {
  "userName" : "op_svc_modelarts_ccms_6fbedc4f"
}, {
  "userName" : "op_svc_modelarts_ccms_7039629d"
}, {
  "userName" : "op_svc_modelarts_ccms_7071f5b0"
}, {
  "userName" : "op_svc_modelarts_ccms_70e13cc2"
}, {
  "userName" : "op_svc_modelarts_ccms_711566c3"
}, {
  "userName" : "op_svc_modelarts_ccms_7326df6b"
}, {
  "userName" : "op_svc_modelarts_ccms_741b4c02"
}, {
  "userName" : "op_svc_modelarts_ccms_7449f94b"
}, {
  "userName" : "op_svc_modelarts_ccms_751b15e9"
}, {
  "userName" : "op_svc_modelarts_ccms_752ffc18"
}, {
  "userName" : "op_svc_modelarts_ccms_75f0173f"
}, {
  "userName" : "op_svc_modelarts_ccms_77b92b1b"
}, {
  "userName" : "op_svc_modelarts_ccms_79158788"
}, {
  "userName" : "op_svc_modelarts_ccms_79cbf6c7"
}, {
  "userName" : "op_svc_modelarts_ccms_79ffa142"
}, {
  "userName" : "op_svc_modelarts_ccms_7b774b82"
}, {
  "userName" : "op_svc_modelarts_ccms_7bbb9bb6"
}, {
  "userName" : "op_svc_modelarts_ccms_7d2d45ee"
}, {
  "userName" : "op_svc_modelarts_ccms_7e6435a6"
}, {
  "userName" : "op_svc_modelarts_ccms_7e8f4fdb"
}, {
  "userName" : "op_svc_modelarts_ccms_80165f4b"
}, {
  "userName" : "op_svc_modelarts_ccms_806be218"
}, {
  "userName" : "op_svc_modelarts_ccms_80780bed"
}, {
  "userName" : "op_svc_modelarts_ccms_807b59c3"
}, {
  "userName" : "op_svc_modelarts_ccms_80b78ec4"
}, {
  "userName" : "op_svc_modelarts_ccms_81ee84de"
}, {
  "userName" : "op_svc_modelarts_ccms_8344f08f"
}, {
  "userName" : "op_svc_modelarts_ccms_838c5ab3"
}, {
  "userName" : "op_svc_modelarts_ccms_8489dfb2"
}, {
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "userName" : "op_svc_modelarts_ccms_851abf90"
}, {
  "userName" : "op_svc_modelarts_ccms_85326569"
}, {
  "userName" : "op_svc_modelarts_ccms_857bf9e2"
}, {
  "userName" : "op_svc_modelarts_ccms_862160d5"
}, {
  "userName" : "op_svc_modelarts_ccms_862cd815"
}, {
  "userName" : "op_svc_modelarts_ccms_86819767"
}, {
  "userName" : "op_svc_modelarts_ccms_8706f87a"
}, {
  "userName" : "op_svc_modelarts_ccms_8865d269"
}, {
  "userName" : "op_svc_modelarts_ccms_89207d7b"
}, {
  "userName" : "op_svc_modelarts_ccms_8b0a56ba"
}, {
  "userName" : "op_svc_modelarts_ccms_8e85417d"
}, {
  "userName" : "op_svc_modelarts_ccms_8ef67fbb"
}, {
  "userName" : "op_svc_modelarts_ccms_909fbb55"
}, {
  "userName" : "op_svc_modelarts_ccms_925bf208"
}, {
  "userName" : "op_svc_modelarts_ccms_92bc9d1b"
}, {
  "userName" : "op_svc_modelarts_ccms_936ed752"
}, {
  "userName" : "op_svc_modelarts_ccms_93e8ed07"
}, {
  "userName" : "op_svc_modelarts_ccms_95591749"
}, {
  "userName" : "op_svc_modelarts_ccms_97a7628b"
}, {
  "userName" : "op_svc_modelarts_ccms_99244659"
}, {
  "userName" : "op_svc_modelarts_ccms_993a83bd"
}, {
  "userName" : "op_svc_modelarts_ccms_99da5c8e"
}, {
  "userName" : "op_svc_modelarts_ccms_9a1b6398"
}, {
  "userName" : "op_svc_modelarts_ccms_9a38e94c"
}, {
  "userName" : "op_svc_modelarts_ccms_9a3b65c7"
}, {
  "userName" : "op_svc_modelarts_ccms_9a41ba9e"
}, {
  "userName" : "op_svc_modelarts_ccms_9ac9460b"
}, {
  "userName" : "op_svc_modelarts_ccms_9ae7c66f"
}, {
  "userName" : "op_svc_modelarts_ccms_9cb33159"
}, {
  "userName" : "op_svc_modelarts_ccms_9cb9db10"
}, {
  "userName" : "op_svc_modelarts_ccms_9d455580"
}, {
  "userName" : "op_svc_modelarts_ccms_9e0efe53"
}, {
  "userName" : "op_svc_modelarts_ccms_9e3f9cee"
}, {
  "userName" : "op_svc_modelarts_ccms_9e681101"
}, {
  "userName" : "op_svc_modelarts_ccms_9f98fe22"
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
}, {
  "userName" : "op_svc_modelarts_ccms_a0854d9f"
}, {
  "userName" : "op_svc_modelarts_ccms_a298a0ac"
}, {
  "userName" : "op_svc_modelarts_ccms_a29eede0"
}, {
  "userName" : "op_svc_modelarts_ccms_a2a2fc9f"
}, {
  "userName" : "op_svc_modelarts_ccms_a356a78b"
}, {
  "userName" : "op_svc_modelarts_ccms_a35d8c9a"
}, {
  "userName" : "op_svc_modelarts_ccms_a38e5408"
}, {
  "userName" : "op_svc_modelarts_ccms_a4904dc0"
}, {
  "userName" : "op_svc_modelarts_ccms_a6ec5dab"
}, {
  "userName" : "op_svc_modelarts_ccms_a6f88966"
}, {
  "userName" : "op_svc_modelarts_ccms_a7e4decc"
}, {
  "userName" : "op_svc_modelarts_ccms_a802af87"
}, {
  "userName" : "op_svc_modelarts_ccms_a896b02a"
}, {
  "userName" : "op_svc_modelarts_ccms_a931d48d"
}, {
  "userName" : "op_svc_modelarts_ccms_a9c5808b"
}, {
  "userName" : "op_svc_modelarts_ccms_ab2f696e"
}, {
  "userName" : "op_svc_modelarts_ccms_aba2cba5"
}, {
  "userName" : "op_svc_modelarts_ccms_ac4c8985"
}, {
  "userName" : "op_svc_modelarts_ccms_ad5a0578"
}, {
  "userName" : "op_svc_modelarts_ccms_ae99e19a"
}, {
  "userName" : "op_svc_modelarts_ccms_af9e06c6"
}, {
  "userName" : "op_svc_modelarts_ccms_b0d82a17"
}, {
  "userName" : "op_svc_modelarts_ccms_b174dea0"
}, {
  "userName" : "op_svc_modelarts_ccms_b2043832"
}, {
  "userName" : "op_svc_modelarts_ccms_b23d3bc6"
}, {
  "userName" : "op_svc_modelarts_ccms_b3e420e2"
}, {
  "userName" : "op_svc_modelarts_ccms_b4b06ff6"
}, {
  "userName" : "op_svc_modelarts_ccms_b58727ae"
}, {
  "userName" : "op_svc_modelarts_ccms_b8d8087c"
}, {
  "userName" : "op_svc_modelarts_ccms_b9c7a1b6"
}, {
  "userName" : "op_svc_modelarts_ccms_ba24b8b8"
}, {
  "userName" : "op_svc_modelarts_ccms_baa8d6e6"
}, {
  "userName" : "op_svc_modelarts_ccms_bac6722a"
}, {
  "userName" : "op_svc_modelarts_ccms_bb9c6767"
}, {
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "userName" : "op_svc_modelarts_ccms_bc24bfed"
}, {
  "userName" : "op_svc_modelarts_ccms_bd4714ab"
}, {
  "userName" : "op_svc_modelarts_ccms_bd65787c"
}, {
  "userName" : "op_svc_modelarts_ccms_be88687e"
}, {
  "userName" : "op_svc_modelarts_ccms_bebcf337"
}, {
  "userName" : "op_svc_modelarts_ccms_bf24a4a9"
}, {
  "userName" : "op_svc_modelarts_ccms_bf3f99f4"
}, {
  "userName" : "op_svc_modelarts_ccms_bf78383d"
}, {
  "userName" : "op_svc_modelarts_ccms_bfac31e3"
}, {
  "userName" : "op_svc_modelarts_ccms_bff6f459"
}, {
  "userName" : "op_svc_modelarts_ccms_c08dc37d"
}, {
  "userName" : "op_svc_modelarts_ccms_c12fd44c"
}, {
  "userName" : "op_svc_modelarts_ccms_c19cf867"
}, {
  "userName" : "op_svc_modelarts_ccms_c2fe7ff3"
}, {
  "userName" : "op_svc_modelarts_ccms_c4b6de50"
}, {
  "userName" : "op_svc_modelarts_ccms_c6489e78"
}, {
  "userName" : "op_svc_modelarts_ccms_c72147cf"
}, {
  "userName" : "op_svc_modelarts_ccms_c7848d06"
}, {
  "userName" : "op_svc_modelarts_ccms_c7d01063"
}, {
  "userName" : "op_svc_modelarts_ccms_c8264865"
}, {
  "userName" : "op_svc_modelarts_ccms_c96cd6b3"
}, {
  "userName" : "op_svc_modelarts_ccms_cb6c7f90"
}, {
  "userName" : "op_svc_modelarts_ccms_cbe1e5bf"
}, {
  "userName" : "op_svc_modelarts_ccms_cc0f963c"
}, {
  "userName" : "op_svc_modelarts_ccms_cc547705"
}, {
  "userName" : "op_svc_modelarts_ccms_cc86c42f"
}, {
  "userName" : "op_svc_modelarts_ccms_ccabc396"
}, {
  "userName" : "op_svc_modelarts_ccms_cdb541fc"
}, {
  "userName" : "op_svc_modelarts_ccms_cfc2f390"
}, {
  "userName" : "op_svc_modelarts_ccms_d122bf8e"
}, {
  "userName" : "op_svc_modelarts_ccms_d1c3ddae"
}, {
  "userName" : "op_svc_modelarts_ccms_d228d649"
}, {
  "userName" : "op_svc_modelarts_ccms_d493657e"
}, {
  "userName" : "op_svc_modelarts_ccms_d4b6e2a7"
}, {
  "userName" : "op_svc_modelarts_ccms_d63f8c7c"
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
}, {
  "userName" : "op_svc_modelarts_ccms_d8908b29"
}, {
  "userName" : "op_svc_modelarts_ccms_d927d1e8"
}, {
  "userName" : "op_svc_modelarts_ccms_d9348d47"
}, {
  "userName" : "op_svc_modelarts_ccms_d9f61c92"
}, {
  "userName" : "op_svc_modelarts_ccms_da36d17c"
}, {
  "userName" : "op_svc_modelarts_ccms_da4b7796"
}, {
  "userName" : "op_svc_modelarts_ccms_dad3cd2c"
}, {
  "userName" : "op_svc_modelarts_ccms_db5eaaee"
}, {
  "userName" : "op_svc_modelarts_ccms_dc07f101"
}, {
  "userName" : "op_svc_modelarts_ccms_dda1d30a"
}, {
  "userName" : "op_svc_modelarts_ccms_de22605f"
}, {
  "userName" : "op_svc_modelarts_ccms_df69c2fb"
}, {
  "userName" : "op_svc_modelarts_ccms_e06e1699"
}, {
  "userName" : "op_svc_modelarts_ccms_e21747fd"
}, {
  "userName" : "op_svc_modelarts_ccms_e31a1ab6"
}, {
  "userName" : "op_svc_modelarts_ccms_e3936575"
}, {
  "userName" : "op_svc_modelarts_ccms_e46dfd7b"
}, {
  "userName" : "op_svc_modelarts_ccms_e56437a7"
}, {
  "userName" : "op_svc_modelarts_ccms_e5d168ee"
}, {
  "userName" : "op_svc_modelarts_ccms_e63e9512"
}, {
  "userName" : "op_svc_modelarts_ccms_e7887337"
}, {
  "userName" : "op_svc_modelarts_ccms_e7d57b9c"
}, {
  "userName" : "op_svc_modelarts_ccms_ea650559"
}, {
  "userName" : "op_svc_modelarts_ccms_eafa7191"
}, {
  "userName" : "op_svc_modelarts_ccms_ecc800ab"
}, {
  "userName" : "op_svc_modelarts_ccms_ed7d87b6"
}, {
  "userName" : "op_svc_modelarts_ccms_ee15e76c"
}, {
  "userName" : "op_svc_modelarts_ccms_eec05542"
}, {
  "userName" : "op_svc_modelarts_ccms_eee51f3b"
}, {
  "userName" : "op_svc_modelarts_ccms_f058d9f7"
}, {
  "userName" : "op_svc_modelarts_ccms_f05f8ea4"
}, {
  "userName" : "op_svc_modelarts_ccms_f16f2a75"
}, {
  "userName" : "op_svc_modelarts_ccms_f45467c0"
}, {
  "userName" : "op_svc_modelarts_ccms_f51accf7"
}, {
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "userName" : "op_svc_modelarts_ccms_f64e8728"
}, {
  "userName" : "op_svc_modelarts_ccms_f84936b7"
}, {
  "userName" : "op_svc_modelarts_ccms_f9e2550c"
}, {
  "userName" : "op_svc_modelarts_ccms_fa211afb"
}, {
  "userName" : "op_svc_modelarts_ccms_fa81ecd3"
}, {
  "userName" : "op_svc_modelarts_ccms_fb46e0e3"
}, {
  "userName" : "op_svc_modelarts_ccms_fd1f3117"
}, {
  "userName" : "op_svc_modelarts_container0"
}, {
  "userName" : "op_svc_modelarts_test"
}, {
  "userName" : "op_test"
}, {
  "userName" : "p00809906"
}, {
  "userName" : "pc_test"
}, {
  "userName" : "pengbihai"
}, {
  "userName" : "q30053300"
}, {
  "userName" : "qinqingsheng"
}, {
  "userName" : "qintao"
}, {
  "userName" : "qintao1"
}, {
  "userName" : "qt_test_ccms"
}, {
  "userName" : "read_only"
}, {
  "userName" : "rse_system_user_cnnorth302"
}, {
  "userName" : "rse_system_user_cnnorth7"
}, {
  "userName" : "s00502827"
}, {
  "userName" : "s00619313"
}, {
  "userName" : "s30070355"
}, {
  "userName" : "strict_user"
}, {
  "userName" : "sub_0"
}, {
  "userName" : "sub_cmy_test_0514"
}, {
  "userName" : "sub_cmy_test_0515"
}, {
  "userName" : "sub_lr_0106"
}, {
  "userName" : "sub_test_01"
}, {
  "userName" : "sub_user_0707"
}, {
  "userName" : "swx1225404"
}, {
  "userName" : "t00580304"
}, {
  "userName" : "t00620230"
}, {
  "userName" : "tangming"
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
}, {
  "userName" : "test"
}, {
  "userName" : "test-auth"
}, {
  "userName" : "test0906"
}, {
  "userName" : "test1"
}, {
  "userName" : "test123"
}, {
  "userName" : "test1234"
}, {
  "userName" : "test123test"
}, {
  "userName" : "test14"
}, {
  "userName" : "testljd"
}, {
  "userName" : "testljd2"
}, {
  "userName" : "testljd3"
}, {
  "userName" : "test_1123_01"
}, {
  "userName" : "test_ces"
}, {
  "userName" : "test_op"
}, {
  "userName" : "test_pc"
}, {
  "userName" : "test_syf"
}, {
  "userName" : "train_auth_temp"
}, {
  "userName" : "train_auth_test"
}, {
  "userName" : "train_system_user_cnnorth7"
}, {
  "userName" : "Train_test"
}, {
  "userName" : "typ"
}, {
  "userName" : "ui_system_user_cnnorth7"
}, {
  "userName" : "w00477913"
}, {
  "userName" : "w00660935"
}, {
  "userName" : "w30014252"
}, {
  "userName" : "w30033116-test"
}, {
  "userName" : "w30035684"
}, {
  "userName" : "w30049444"
}, {
  "userName" : "wangsj"
}, {
  "userName" : "wangyiming"
}, {
  "userName" : "wdtest"
}, {
  "userName" : "weixiaodi"
}, {
  "userName" : "weixiaodi1"
}, {
  "userName" : "wsj_test_0"
}, {
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "userName" : "wuweisheng"
  }, {
    "userName" : "wuweisheng1"
  }, {
    "userName" : "wzc-yange-shouquan"
  }, {
    "userName" : "x00354578"
  }, {
    "userName" : "x00899094"
  }, {
    "userName" : "xds"
  }, {
    "userName" : "xingxiaoxiao"
  }, {
    "userName" : "xkx_test_admin_sub"
  }, {
    "userName" : "xkx_test_sub"
  }, {
    "userName" : "xubixiao"
  }, {
    "userName" : "xubo"
  }, {
    "userName" : "y00424085"
  }, {
    "userName" : "y00580349"
  }, {
    "userName" : "y30001397"
  }, {
    "userName" : "yancs001"
  }, {
    "userName" : "z00357434"
  }, {
    "userName" : "z00430164"
  }, {
    "userName" : "z00576049"
  }, {
    "userName" : "z00800172"
  }, {
    "userName" : "z60078209"
  }, {
    "userName" : "zhanglie"
  }, {
    "userName" : "zhangqian"
  }, {
    "userName" : "zhonghaiwei"
  }, {
    "userName" : "zhuzhiming"
  }, {
    "userName" : "zx-test"
  } ]
}
```


Status Codes

Status Code	Description
200	Query the user role information.

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

13 Quota Management

13.1 Obtaining OS Quotas

Function

This API is used to obtain the quotas of some ModelArts OS resources, such as resource pool quotas and network quotas. This API is used when you need to know the usage limits of resource pools or network resources, plan resource allocation, or monitor resource usage. Before using this API, ensure that ModelArts OS is deployed and you have the required permissions (such as administrator permissions or resource management permissions). After the API is called, the system returns details about resource pool quotas and network quotas, helping you better plan and manage resources. If you do not have the required permission, the service is unavailable, or the quota information is not configured, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/quotas

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 13-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 13-2 Response body parameters

Parameter	Type	Description
quotas	**Quota** object	**Definition**: Resource quota.

Table 13-3 Quota

Parameter	Type	Description
resources	Array of **ResourceQuota** objects	**Definition**: Resource quota.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 13-4 ResourceQuota

Parameter	Type	Description
type	String	**Definition**: Resource type. **Range**: • **VPC**: Virtual private cloud. • **SUBNET**: Subnet. • **SECURITY_GROUP**: Security group. • **SECURITY_GROUP_RULE**: Security group rule. • **PUBLIC_IP**: Public IP address. • **VPC_PEER**: Number of VPC peering connections. • **FIREWALL**: Firewall. • **SHARE_BANDWIDTH**: Shared bandwidth. • **SHARE_BANDWIDTH_IP**: Shared bandwidth IP address. • **LOADBALANCER**: Load balancer. • **LISTENER**: Listener. • **PHYSICAL_CONNECT**: Physical connection. • **VIRTUAL_INTERFACE**: Virtual interface. • **VPC_CONTAIN_ROUTETABLE**: Route tables contained in the VPC. • **ROUTETABLE_CONTAIN_ROUTES**: Routes contained in the routing table.
quota	String	**Definition**: Upper limit of the resource quota. **Range**: N/A
used	String	**Definition**: Used quota. **Range**: N/A

Status code: 404

Table 13-5 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

None

Example Responses

Status code: 200

OK.

```
{
  "quotas" : {
    "resources" : [ {
      "type" : "pool",
      "quota" : 15,
      "used" : 10
    }, {
      "type" : "network",
      "quota" : 15,
      "used" : 10
    } ]
  }
}
```

Status Codes

Status Code	Description
200	OK.
404	Not found.

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

14 Resource Tag Management

14.1 Obtaining All Tags of Resource Pools

Function

This API is used to obtain all tags of resource pools in the current project. By default, all workspaces are queried, but tag data is not returned for workspaces to which you do not have permissions. This API is used when you need to manage, classify, or collect statistics on resource pool tags. Before using this API, ensure that you have the required permission and the resource pool exists. After the API is called, the system returns the resource pool tags of all accessible workspaces in the current project. If you do not have the required permission, the resource pool does not exist, or the project is not created, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/pools/tags

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 14-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 14-2 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	**Definition**: Maximum number of records returned on each page. The default value is **200**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
offset	No	Integer	**Definition**: Start page for pagination display. The default value is **0**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 14-3 Response body parameters

Parameter	Type	Description
tags	Array of **PoolTag** objects	**Definition**: Resource tag list.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 14-4 PoolTag

Parameter	Type	Description
key	String	**Definition**: Tag of the resource type. **Range**: N/A
values	Array of strings	**Definition**: Tag value of the resource type.

Status code: 400

Table 14-5 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 14-6 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 14-7 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

```
https://{endpoint}/v1/{project_id}/pools/tags
```

Example Responses

Status code: 200

Obtaining all tags of a specified resource type in a project

```
{
  "tags" : [ {
    "key" : "model_version",
    "values" : [ "0.1", "0.2" ]
  }, {
    "key" : "conda_version",
    "values" : [ "10.2", "11.0" ]
  } ]
}
```

Status Codes

Status Code	Description
200	Obtaining all tags of a specified resource type in a project
400	Invalid parameter.
401	Authentication failed.
403	Insufficient permission.

Error Codes

See **Error Codes**.

14.2 Obtaining Tags of a Resource Pool

Function

This API is used to obtain the tag information of a specified resource pool. This API is used when you need to view, manage, or collect statistics on resource pool tags. Before using this API, ensure that the resource pool exists and you have the required permission. After the API is called, the system returns the tag information of the specified resource pool, including the tag key and tag value. If the resource pool does not exist, you do not have the access permission, or the resource pool is not configured with tags, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/pools/{pool_name}/tags

Table 14-8 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Definition**: Resource pool name. The value is the **name** value in the **metadata** field of the resource pool details. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 204

Table 14-9 Response body parameters

Parameter	Type	Description
tags	Array of **PoolTag** objects	**Definition**: Resource tag list.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 14-10 PoolTag

Parameter	Type	Description
key	String	**Definition**: Tag of the resource type. **Range**: N/A
values	Array of strings	**Definition**: Tag value of the resource type.

Status code: 400

Table 14-11 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 401

Table 14-12 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 403

Table 14-13 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status code: 404

Table 14-14 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

```
https://{endpoint}/v1/{project_id}/pools/a55eba18-1ebf-4e9a-8229-d2d3b593a3dc/tags
```

Example Responses

Status code: 204

Tags.

```
{
  "tags" : [ {
    "key" : "dev",
    "values" : [ "dev1" ]
  } ]
}
```

Status Codes

Status Code	Description
204	Tags.
400	Invalid parameter.
401	Authentication failed.
403	Insufficient permission.
404	Resource not found

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

15 Node Pool Management

15.1 Obtaining Node Pools

Function

This API is used to obtain the list of a specified node pool. This API is used when you need to obtain the details about a node pool, such as the configuration, status, or resource management. Before using this API, ensure that the node pool exists and you have the administrator permissions. After the API is called, the system returns the node pool list, including the node pool ID, name, number of nodes, and status. If the node pool does not exist, the user does not have the permission to perform the operation, or the node pool is unavailable, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v2/{project_id}/pools/{pool_name}/nodepools

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Definition**: Resource pool name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 15-2 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version. **Range**: • *v2
kind	String	**Definition**: Resource type. **Range**: • **NodePoolList**: node list
items	Array of **NodePool** objects	**Definition**: Node pool list.

Table 15-3 NodePool

Parameter	Type	Description
apiVersion	String	**Definition**: API version. **Range**: • **v2**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
kind	String	Node pool type. The options are as follows: • **NodePool**: node pool
metadata	**NodePoolMetadata** object	**Definition**: Node pool metadata.
spec	**NodePoolSpec** object	**Definition**: Node pool expectation.
status	**NodePoolStatus** object	**Definition**: Node pool status.

Table 15-4 NodePoolMetadata

Parameter	Type	Description
name	String	**Definition**: Node pool name. You can specify the name. If not specified, the default name is used. **Range**: N/A

Table 15-5 NodePoolSpec

Parameter	Type	Description
resources	**PoolResource** object	**Definition**: List of resources in a node pool, including resource flavors, quantity, and custom configurations. **Range**: N/A

Table 15-6 PoolResource

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor name, for example, **modelarts.vm.gpu.t4u8**. **Range**: N/A.
count	Integer	**Definition**: Committed specifications. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
maxCount	Integer	**Definition**: Elastic usage of the resource flavor. This parameter value is the same the **count** value in a physical pool. **Range**: N/A.
azs	Array of **PoolNodeAz** objects	**Definition**: AZ information of nodes in the resource pool.
nodePool	String	**Definition**: Node pool name, for example, **nodePool-1**. **Range**: N/A.
taints	Array of **Taints** objects	**Definition**: Taints to be added to nodes to set anti-affinity. This parameter cannot be specified for a non-privileged pool.
labels	Map<String,String>	**Definition**: Kubernetes label, in key-value pair format.
tags	Array of **UserTags** objects	**Definition**: Resource tag. This parameter cannot be specified for a non-privileged pool.
network	**NodeNetwork** object	**Definition**: Network configuration. This parameter cannot be specified for a non-privileged pool.
extendParams	**ResourceExtendParams** object	**Definition**: Custom configuration.
creatingStep	**CreatingStep** object	**Definition**: Information about batch creation.
rootVolume	**RootVolume** object	**Definition**: Information about the custom system disk (cloud hard disk).
dataVolumes	Array of **DataVolumeItem** objects	**Definition**: List of custom data disks (cloud hard disks).
volumeGroupConfigs	Array of **VolumeGroupConfig** objects	**Definition**: Advanced disk configuration. This parameter is mandatory when a custom data disk exists.
os	**Os** object	**Definition**: OS image information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-7 Taints

Parameter	Type	Description
key	String	**Definition**: Key. **Range**: N/A
value	String	Value.
effect	String	Effect.

Table 15-8 UserTags

Parameter	Type	Description
key	String	**Definition**: Key. The value cannot start with **CCE-** or **__type_baremetal**. **Range**: N/A
value	String	Value.

Table 15-9 NodeNetwork

Parameter	Type	Description
vpc	String	• **Definition**: VPC ID. **Range**: N/A.
subnet	String	**Definition**: Subnet ID. **Range**: N/A.
securityGroups	Array of strings	**Definition**: Security group ID set.

Table 15-10 ResourceExtendParams

Parameter	Type	Description
dockerBaseSize	String	**Definition**: Container image space of a node. **Range**: • **Specified**: The default value of dockerBaseSize ranges from **50** to **500**. However, the actual value is restricted by the container data disk size of the node. • **Unlimited**: *dockerBaseSize="0, indicating that the container image space is not limited.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
postInstall	String	**Definition**: Post-installation script. The entered value must be encoded using Base64. **Range**: N/A.
runtime	String	**Definition**: Container runtime. **Range**: • **docker**: Container runtime. It is the most commonly used container engine, which is used to create and manage container instances based on container images. • **containerd**: Industrial-grade container runtime. It focuses on container lifecycle management and is one of the core components at the bottom layer of Docker. It can also be deployed independently.
labelPolicyOnExistingNodes	String	**Definition**: Kubernetes label update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
taintPolicyOnExistingNodes	String	**Definition**: Kubernetes taint update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
tagPolicyOnExistingNodes	String	**Definition**: Resource tag update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
XParameterPlane-Subnet	String	**Definition**: Subnet ID used for data transmission on the parameter plane between physical clusters. The value cannot be the same as the node subnet or container subnet. **Range**: N/A.
nodePoolName	String	**Definition**: Name of the node pool specified by you. The value is a string of 2 to 50 characters, consisting of lowercase letters, hyphens (-), and digits. It must start with a lowercase letter and cannot end with a hyphen (-) or **-default**. **Range**: N/A.

Table 15-11 CreatingStep

Parameter	Type	Description
step	Integer	**Definition**: Step of a supernode. **Constraints**: N/A **Range**: Only the step contained in the resource specification details is supported. **Default Value**: N/A
type	String	**Definition**: Batch creation type. **Constraints**: N/A **Range**: • **hyperinstance**: supernode **Default Value**: N/A

Table 15-12 RootVolume

Parameter	Type	Description
volumeType	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
size	String	**Definition**: Disk size, in GiB. **Range**: N/A.

Table 15-13 DataVolumeItem

Parameter	Type	Description
volumeType	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk
size	String	**Definition**: Disk size, in GiB. **Range**: N/A.
count	Integer	**Definition**: Number of disks. **Range**: N/A.
extendParams	**VolumeExtendParams** object	**Definition**: Custom disk configuration.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-14 VolumeExtendParams

Parameter	Type	Description
volumeGroup	String	**Definition**: Name of a disk group, which is used to divide storage space. **Range**: • **vgpaas**: container disk. • **default**: common data disk, which is mounted in default mode. • **vguser**: common data disk, which is mounted to a specified path. The group name varies depending on the path, for example, **vguser1** and **vguser2**. • **vg-everest-localvolume-persistent**: common data disk, which is used as the persistent storage volume. • **vg-everest-localvolume-ephemeral**: common data disk, which is used as a temporary storage volume.

Table 15-15 VolumeGroupConfig

Parameter	Type	Description
volumeGroup	String	**Definition**: Disk group name. Index of the volume group in the dataVolumes. **Range**: N/A.
dockerThinPool	Integer	**Definition**: Percentage of data disks designated as container disks. This parameter can be specified only when **volumeGroup** is **vgpaas** (container disk). **Range**: N/A.
lvmConfig	**LvmConfig** object	**Definition**: LVM configuration management.
types	Array of strings	**Definition**: Storage type. Options: • **volume**: Cloud hard disk. When **dataVolumes** is specified, the default value is used. • **local**: Local disk. This parameter must be specified when a local disk is used.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-16 LvmConfig

Parameter	Type	Description
lvType	String	**Definition**: LVM write mode. **Range**: ● **linear**: Linear mode. ● **striped**: Striped mode in which multiple disks are used to form a strip to improve disk performance.
path	String	**Definition**: Disk mount path. This parameter takes effect only in user configuration. The value is an absolute path. Digits, letters, periods (.), hyphens (-), and underscores (_) are allowed. **Range**: N/A.

Table 15-17 Os

Parameter	Type	Description
name	String	**Definition**: OS name and version, for example, EulorOS 2.5. This parameter can be left blank when a private image is specified. **Range**: N/A.
imageId	String	**Definition**: OS image ID. **Range**: N/A.
imageType	String	**Definition**: OS image type. This parameter must be specified when a private image is set. By default, the preset image is used. You do not need to specify this field. **Range**: ● **private**: private images ● "": The preset image is used.
autoMatch	String	**Definition**: Automatic OS image matching configuration. If this parameter is set, the optimal image is automatically selected, and this parameter is automatically cleared. **Range**: OS name and version, for example, EulorOS 2.5.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-18 NodePoolStatus

Parameter	Type	Description
resources	**resources** object	**Definition**: Resources in different states in a node pool.

Table 15-19 resources

Parameter	Type	Description
creating	**PoolResourceFlavorCount** object	**Definition**: Number of resources that are being created.
available	**PoolResourceFlavorCount** object	**Definition**: Number of available resources.
abnormal	**PoolResourceFlavorCount** object	**Definition**: Number of abnormal resources.
deleting	**PoolResourceFlavorCount** object	**Definition**: Number of resources that are being deleted.

Table 15-20 PoolResourceFlavorCount

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor ID. **Range**: N/A
count	Integer	**Definition**: Number of resource specification instances in a resource pool. **Range**: N/A
maxCount	Integer	**Definition**: Number of elastic resource specification instances in a resource pool. The value of this parameter in a physical pool is the same as that of **count**. **Range**: N/A
azs	Array of **PoolNodeAz** objects	**Definition**: AZ distribution of the resource specification instances to be created in a resource pool.
nodePool	String	**Definition**: Node pool ID. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-21 PoolNodeAz

Parameter	Type	Description
az	String	**Definition**: AZ name. **Range**: N/A
count	Integer	**Definition**: Number of AZ resource instances. **Range**: N/A

Example Requests

Obtain node pools.

```
GET https://{endpoint}/v2/{project_id}/pools/{pool_name}/nodepools

{ }
```

Example Responses

Status code: 200

OK.

```
{
  "kind" : "NodePoolList",
  "apiVersion" : "v2",
  "items" : [ {
    "kind" : "NodePool",
    "apiVersion" : "v2",
    "metadata" : {
      "name" : "modelarts.vm.2u4g.dcc-Default"
    },
    "spec" : {
      "resources" : {
        "nodePool" : "modelarts.vm.2u4g.dcc-Default",
        "flavor" : "modelarts.vm.2u4g.dcc",
        "count" : 1,
        "maxCount" : 1,
        "network" : {
          "vpc" : "277e9abc-0e6b-431a-9232-cfd25d5fc566",
          "subnet" : "03796378-c356-4c14-826b-e4913aa9c8b9",
          "securityGroups" : [ "0a15b48d-06f1-41e4-b782-ade90087bf59" ]
        }
      }
    },
    "status" : {
      "resources" : {
        "available" : {
          "nodePool" : "modelarts.vm.2u4g.dcc-Default",
          "flavor" : "modelarts.vm.2u4g.dcc",
          "count" : 1,
          "maxCount" : 1,
          "azs" : [ {
            "az" : "cn-north-7c",
            "count" : 1
          } ]
        }
      }
    }
  }, {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "kind" : "NodePool",
  "apiVersion" : "v2",
  "metadata" : {
    "name" : "nodepool-1"
  },
  "spec" : {
    "resources" : {
      "nodePool" : "nodepool-1",
      "flavor" : "modelarts.vm.2u4g.dcc",
      "count" : 1,
      "maxCount" : 1,
      "network" : {
        "vpc" : "277e9abc-0e6b-431a-9232-cfd25d5fc566",
        "subnet" : "03796378-c356-4c14-826b-e4913aa9c8b9",
        "securityGroups" : [ "0a15b48d-06f1-41e4-b782-ade90087bf59" ]
      }
    }
  },
  "status" : {
    "resources" : {
      "available" : {
        "nodePool" : "nodepool-1",
        "flavor" : "modelarts.vm.2u4g.dcc",
        "count" : 1,
        "maxCount" : 1,
        "azs" : [ {
          "az" : "cn-north-7c",
          "count" : 1
        } ]
      }
    }
  }
 } ]
}
```


Status Codes

Status Code	Description
200	OK.

Error Codes

See **Error Codes**.

15.2 Creating a Node Pool

Function

This API is used to create a node pool. This API is used when you need to create a node pool with specified configurations when you need to expand compute resources, optimize resource allocation, or deploy new services. Before using this API, ensure that you have the administrator permission and the node pool parameters (such as the number of nodes, specifications, and network configurations) are correctly set. After the creation, the node pool will be created and be available, and the related node information will be recorded. If you do not have the required permission, the parameter settings are incorrect, or system resources are insufficient, the API will return an error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v2/{project_id}/pools/{pool_name}/nodepools

Table 15-22 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Definition**: Resource pool name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

Table 15-23 Request body parameters

Parameter	Mandatory	Type	Description
apiVersion	Yes	String	**Definition**: API version. **Range**: • **v2**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
kind	Yes	String	**Definition**: Node pool type. **Range**: • **NodePool**: node pool
metadata	Yes	**CreateNodePoolMetaVO** object	**Definition**: Node pool metadata.
spec	No	**NodePoolSpec** object	**Definition**: Node pool expectation.

Table 15-24 CreateNodePoolMetaVO

Parameter	Mandatory	Type	Description
name	Yes	String	**Definition**: Node pool name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
annotations	No	**CreateNodePoolAnnotations** object	**Definition**: Node pool annotations. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 15-25 CreateNodePoolAnnotations

Parameter	Mandatory	Type	Description
os.modelarts/billing.mode	No	String	**Definition**: Billing mode. **Constraints**: N/A **Range**: • **0**: pay-per-use • **1**: yearly/monthly **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
os.modelarts/period.num	No	String	**Definition**: Subscription period on a yearly/monthly basis, for example, **2**. This parameter is mandatory when the billing mode is yearly/monthly. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/period.type	No	String	**Definition**: Subscription type on a yearly/monthly basis. This parameter is mandatory when the billing mode is yearly/monthly. **Constraints**: N/A **Range**: • **2**: month • **3**: year • **4**: hour **Default Value**: N/A
os.modelarts/auto.renew	No	String	**Definition**: Specifies whether to automatically renew the subscription. **Constraints**: N/A **Range**: • **0**: auto-renewal disabled • **1**: auto-renewal enabled **Default Value**: **0**
os.modelarts/promotion.info	No	String	**Definition**: Discount selected on the operations platform. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/service.console.url	No	String	**Definition**: URL of the page displayed after the subscription order is paid. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
os.modelarts/order.id	No	String	**Definition**: Order ID, which is mandatory for creating a yearly/monthly resource or changing the billing mode. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 15-26 NodePoolSpec

Parameter	Mandatory	Type	Description
resources	Yes	**PoolResource** object	**Definition**: List of resources in a node pool, including resource flavors, quantity, and custom configurations. **Range**: N/A

Table 15-27 PoolResource

Parameter	Mandatory	Type	Description
flavor	Yes	String	**Definition**: Resource flavor name, for example, **modelarts.vm.gpu.t4u8**. **Range**: N/A.
count	Yes	Integer	**Definition**: Committed specifications. **Range**: N/A.
maxCount	Yes	Integer	**Definition**: Elastic usage of the resource flavor. This parameter value is the same the **count** value in a physical pool. **Range**: N/A.
azs	No	Array of **PoolNodeAz** objects	**Definition**: AZ information of nodes in the resource pool.
nodePool	No	String	**Definition**: Node pool name, for example, **nodePool-1**. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
taints	No	Array of **Taints** objects	**Definition**: Taints to be added to nodes to set anti-affinity. This parameter cannot be specified for a non-privileged pool.
labels	No	Map<String,String>	**Definition**: Kubernetes label, in key-value pair format.
tags	No	Array of **UserTags** objects	**Definition**: Resource tag. This parameter cannot be specified for a non-privileged pool.
network	No	**NodeNetwork** object	**Definition**: Network configuration. This parameter cannot be specified for a non-privileged pool.
extendParams	No	**ResourceExtendParams** object	**Definition**: Custom configuration.
creatingStep	No	**CreatingStep** object	**Definition**: Information about batch creation.
rootVolume	No	**RootVolume** object	**Definition**: Information about the custom system disk (cloud hard disk).
dataVolumes	No	Array of **DataVolumeItem** objects	**Definition**: List of custom data disks (cloud hard disks).
volumeGroupConfigs	No	Array of **VolumeGroupConfig** objects	**Definition**: Advanced disk configuration. This parameter is mandatory when a custom data disk exists.
os	No	**Os** object	**Definition**: OS image information.

Table 15-28 PoolNodeAz

Parameter	Mandatory	Type	Description
az	Yes	String	**Definition**: AZ name. **Range**: N/A
count	Yes	Integer	**Definition**: Number of AZ resource instances. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-29 Taints

Parameter	Mandatory	Type	Description
key	Yes	String	**Definition**: Key. **Range**: N/A
value	No	String	Value.
effect	Yes	String	Effect.

Table 15-30 UserTags

Parameter	Mandatory	Type	Description
key	Yes	String	**Definition**: Key. The value cannot start with **CCE-** or **__type_baremetal**. **Range**: N/A
value	Yes	String	Value.

Table 15-31 NodeNetwork

Parameter	Mandatory	Type	Description
vpc	No	String	• **Definition**: VPC ID. **Range**: N/A.
subnet	No	String	**Definition**: Subnet ID. **Range**: N/A.
securityGroups	No	Array of strings	**Definition**: Security group ID set.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-32 ResourceExtendParams

Parameter	Mandatory	Type	Description
dockerBaseSize	No	String	**Definition**: Container image space of a node. **Range**: • **Specified**: The default value of dockerBaseSize ranges from **50** to **500**. However, the actual value is restricted by the container data disk size of the node. • **Unlimited**: *dockerBaseSize="0, indicating that the container image space is not limited.
postInstall	No	String	**Definition**: Post-installation script. The entered value must be encoded using Base64. **Range**: N/A.
runtime	No	String	**Definition**: Container runtime. **Range**: • **docker**: Container runtime. It is the most commonly used container engine, which is used to create and manage container instances based on container images. • **containerd**: Industrial-grade container runtime. It focuses on container lifecycle management and is one of the core components at the bottom layer of Docker. It can also be deployed independently.
labelPolicyOnExistingNodes	No	String	**Definition**: Kubernetes label update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
taintPolicyOnExistingNodes	No	String	**Definition**: Kubernetes taint update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
tagPolicyOnExistingNodes	No	String	**Definition**: Resource tag update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
XParameterPlaneSubnet	No	String	**Definition**: Subnet ID used for data transmission on the parameter plane between physical clusters. The value cannot be the same as the node subnet or container subnet. **Range**: N/A.
nodePoolName	No	String	**Definition**: Name of the node pool specified by you. The value is a string of 2 to 50 characters, consisting of lowercase letters, hyphens (-), and digits. It must start with a lowercase letter and cannot end with a hyphen (-) or **-default**. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-33 CreatingStep

Parameter	Mandatory	Type	Description
step	No	Integer	**Definition**: Step of a supernode. **Constraints**: N/A **Range**: Only the step contained in the resource specification details is supported. **Default Value**: N/A
type	No	String	**Definition**: Batch creation type. **Constraints**: N/A **Range**: • **hyperinstance**: supernode **Default Value**: N/A

Table 15-34 RootVolume

Parameter	Mandatory	Type	Description
volumeType	Yes	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk
size	Yes	String	**Definition**: Disk size, in GiB. **Range**: N/A.

Table 15-35 DataVolumeItem

Parameter	Mandatory	Type	Description
volumeType	Yes	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
size	Yes	String	**Definition**: Disk size, in GiB. **Range**: N/A.
count	No	Integer	**Definition**: Number of disks. **Range**: N/A.
extendParams	Yes	**VolumeExtendParams** object	**Definition**: Custom disk configuration.

Table 15-36 VolumeExtendParams

Parameter	Mandatory	Type	Description
volumeGroup	Yes	String	**Definition**: Name of a disk group, which is used to divide storage space. **Range**: • **vgpaas**: container disk. • **default**: common data disk, which is mounted in default mode. • **vguser**: common data disk, which is mounted to a specified path. The group name varies depending on the path, for example, **vguser1** and **vguser2**. • **vg-everest-localvolume-persistent**: common data disk, which is used as the persistent storage volume. • **vg-everest-localvolume-ephemeral**: common data disk, which is used as a temporary storage volume.

Table 15-37 VolumeGroupConfig

Parameter	Mandatory	Type	Description
volumeGroup	Yes	String	**Definition**: Disk group name. Index of the volume group in the dataVolumes. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
dockerThinPool	No	Integer	**Definition**: Percentage of data disks designated as container disks. This parameter can be specified only when **volumeGroup** is **vgpaas** (container disk). **Range**: N/A.
lvmConfig	No	**LvmConfig** object	**Definition**: LVM configuration management.
types	No	Array of strings	**Definition**: Storage type. Options: • **volume**: Cloud hard disk. When **dataVolumes** is specified, the default value is used. • **local**: Local disk. This parameter must be specified when a local disk is used.

Table 15-38 LvmConfig

Parameter	Mandatory	Type	Description
lvType	Yes	String	**Definition**: LVM write mode. **Range**: • **linear**: Linear mode. • **striped**: Striped mode in which multiple disks are used to form a strip to improve disk performance.
path	No	String	**Definition**: Disk mount path. This parameter takes effect only in user configuration. The value is an absolute path. Digits, letters, periods (.), hyphens (-), and underscores (_) are allowed. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-39 Os

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: OS name and version, for example, EulorOS 2.5. This parameter can be left blank when a private image is specified. **Range**: N/A.
imageId	No	String	**Definition**: OS image ID. **Range**: N/A.
imageType	No	String	**Definition**: OS image type. This parameter must be specified when a private image is set. By default, the preset image is used. You do not need to specify this field. **Range**: • **private**: private images • "": The preset image is used.
autoMatch	No	String	**Definition**: Automatic OS image matching configuration. If this parameter is set, the optimal image is automatically selected, and this parameter is automatically cleared. **Range**: OS name and version, for example, EulorOS 2.5.

Response Parameters

Status code: 200

Table 15-40 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version. **Range**: • **v2**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
kind	String	**Definition**: Node pool type. **Range**: • **NodePool**: node pool
metadata	**CreateNodePoolMetaVO** object	**Definition**: Node pool metadata.
spec	**NodePoolSpec** object	**Definition**: Node pool expectation.

Table 15-41 CreateNodePoolMetaVO

Parameter	Type	Description
name	String	**Definition**: Node pool name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
annotations	**CreateNodePoolAnnotations** object	**Definition**: Node pool annotations. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 15-42 CreateNodePoolAnnotations

Parameter	Type	Description
os.modelarts/billing.mode	String	**Definition**: Billing mode. **Constraints**: N/A **Range**: • **0**: pay-per-use • **1**: yearly/monthly **Default Value**: N/A
os.modelarts/period.num	String	**Definition**: Subscription period on a yearly/monthly basis, for example, **2**. This parameter is mandatory when the billing mode is yearly/monthly. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts/period.type	String	**Definition**: Subscription type on a yearly/monthly basis. This parameter is mandatory when the billing mode is yearly/monthly. **Constraints**: N/A **Range**: • **2**: month • **3**: year • **4**: hour **Default Value**: N/A
os.modelarts/auto.renew	String	**Definition**: Specifies whether to automatically renew the subscription. **Constraints**: N/A **Range**: • **0**: auto-renewal disabled • **1**: auto-renewal enabled **Default Value**: **0**
os.modelarts/promotion.info	String	**Definition**: Discount selected on the operations platform. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/service.console.url	String	**Definition**: URL of the page displayed after the subscription order is paid. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
os.modelarts/order.id	String	**Definition**: Order ID, which is mandatory for creating a yearly/monthly resource or changing the billing mode. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-43 NodePoolSpec

Parameter	Type	Description
resources	**PoolResource** object	**Definition**: List of resources in a node pool, including resource flavors, quantity, and custom configurations. **Range**: N/A

Table 15-44 PoolResource

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor name, for example, **modelarts.vm.gpu.t4u8**. **Range**: N/A.
count	Integer	**Definition**: Committed specifications. **Range**: N/A.
maxCount	Integer	**Definition**: Elastic usage of the resource flavor. This parameter value is the same the **count** value in a physical pool. **Range**: N/A.
azs	Array of **PoolNodeAz** objects	**Definition**: AZ information of nodes in the resource pool.
nodePool	String	**Definition**: Node pool name, for example, **nodePool-1**. **Range**: N/A.
taints	Array of **Taints** objects	**Definition**: Taints to be added to nodes to set anti-affinity. This parameter cannot be specified for a non-privileged pool.
labels	Map<String,String>	**Definition**: Kubernetes label, in key-value pair format.
tags	Array of **UserTags** objects	**Definition**: Resource tag. This parameter cannot be specified for a non-privileged pool.
network	**NodeNetwork** object	**Definition**: Network configuration. This parameter cannot be specified for a non-privileged pool.
extendParams	**ResourceExtendParams** object	**Definition**: Custom configuration.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
creatingStep	**CreatingStep** object	**Definition**: Information about batch creation.
rootVolume	**RootVolume** object	**Definition**: Information about the custom system disk (cloud hard disk).
dataVolumes	Array of **DataVolumeItem** objects	**Definition**: List of custom data disks (cloud hard disks).
volumeGroupConfigs	Array of **VolumeGroupConfig** objects	**Definition**: Advanced disk configuration. This parameter is mandatory when a custom data disk exists.
os	**Os** object	**Definition**: OS image information.

Table 15-45 PoolNodeAz

Parameter	Type	Description
az	String	**Definition**: AZ name. **Range**: N/A
count	Integer	**Definition**: Number of AZ resource instances. **Range**: N/A

Table 15-46 Taints

Parameter	Type	Description
key	String	**Definition**: Key. **Range**: N/A
value	String	Value.
effect	String	Effect.

Table 15-47 UserTags

Parameter	Type	Description
key	String	**Definition**: Key. The value cannot start with **CCE-** or **__type_baremetal**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
value	String	Value.

Table 15-48 NodeNetwork

Parameter	Type	Description
vpc	String	• **Definition**: VPC ID. **Range**: N/A.
subnet	String	**Definition**: Subnet ID. **Range**: N/A.
securityGroups	Array of strings	**Definition**: Security group ID set.

Table 15-49 ResourceExtendParams

Parameter	Type	Description
dockerBaseSize	String	**Definition**: Container image space of a node. **Range**: • **Specified**: The default value of dockerBaseSize ranges from **50** to **500**. However, the actual value is restricted by the container data disk size of the node. • **Unlimited**: *dockerBaseSize="0, indicating that the container image space is not limited.
postInstall	String	**Definition**: Post-installation script. The entered value must be encoded using Base64. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
runtime	String	**Definition**: Container runtime. **Range**: • **docker**: Container runtime. It is the most commonly used container engine, which is used to create and manage container instances based on container images. • **containerd**: Industrial-grade container runtime. It focuses on container lifecycle management and is one of the core components at the bottom layer of Docker. It can also be deployed independently.
labelPolicyOnExistingNodes	String	**Definition**: Kubernetes label update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
taintPolicyOnExistingNodes	String	**Definition**: Kubernetes taint update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
tagPolicyOnExistingNodes	String	**Definition**: Resource tag update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
XParameterPlaneSubnet	String	**Definition**: Subnet ID used for data transmission on the parameter plane between physical clusters. The value cannot be the same as the node subnet or container subnet. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
nodePoolName	String	**Definition**: Name of the node pool specified by you. The value is a string of 2 to 50 characters, consisting of lowercase letters, hyphens (-), and digits. It must start with a lowercase letter and cannot end with a hyphen (-) or **-default**. **Range**: N/A.

Table 15-50 CreatingStep

Parameter	Type	Description
step	Integer	**Definition**: Step of a supernode. **Constraints**: N/A **Range**: Only the step contained in the resource specification details is supported. **Default Value**: N/A
type	String	**Definition**: Batch creation type. **Constraints**: N/A **Range**: • **hyperinstance**: supernode **Default Value**: N/A

Table 15-51 RootVolume

Parameter	Type	Description
volumeType	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk
size	String	**Definition**: Disk size, in GiB. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-52 DataVolumeItem

Parameter	Type	Description
volumeType	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk
size	String	**Definition**: Disk size, in GiB. **Range**: N/A.
count	Integer	**Definition**: Number of disks. **Range**: N/A.
extendParams	**VolumeExtendParams** object	**Definition**: Custom disk configuration.

Table 15-53 VolumeExtendParams

Parameter	Type	Description
volumeGroup	String	**Definition**: Name of a disk group, which is used to divide storage space. **Range**: • **vgpaas**: container disk. • **default**: common data disk, which is mounted in default mode. • **vguser**: common data disk, which is mounted to a specified path. The group name varies depending on the path, for example, **vguser1** and **vguser2**. • **vg-everest-localvolume-persistent**: common data disk, which is used as the persistent storage volume. • **vg-everest-localvolume-ephemeral**: common data disk, which is used as a temporary storage volume.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-54 VolumeGroupConfig

Parameter	Type	Description
volumeGroup	String	**Definition**: Disk group name. Index of the volume group in the dataVolumes. **Range**: N/A.
dockerThinPool	Integer	**Definition**: Percentage of data disks designated as container disks. This parameter can be specified only when **volumeGroup** is **vgpaas** (container disk). **Range**: N/A.
lvmConfig	**LvmConfig** object	**Definition**: LVM configuration management.
types	Array of strings	**Definition**: Storage type. Options: • **volume**: Cloud hard disk. When **dataVolumes** is specified, the default value is used. • **local**: Local disk. This parameter must be specified when a local disk is used.

Table 15-55 LvmConfig

Parameter	Type	Description
lvType	String	**Definition**: LVM write mode. **Range**: • **linear**: Linear mode. • **striped**: Striped mode in which multiple disks are used to form a strip to improve disk performance.
path	String	**Definition**: Disk mount path. This parameter takes effect only in user configuration. The value is an absolute path. Digits, letters, periods (.), hyphens (-), and underscores (_) are allowed. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-56 Os

Parameter	Type	Description
name	String	**Definition**: OS name and version, for example, EulorOS 2.5. This parameter can be left blank when a private image is specified. **Range**: N/A.
imageId	String	**Definition**: OS image ID. **Range**: N/A.
imageType	String	**Definition**: OS image type. This parameter must be specified when a private image is set. By default, the preset image is used. You do not need to specify this field. **Range**: • **private**: private images • "": The preset image is used.
autoMatch	String	**Definition**: Automatic OS image matching configuration. If this parameter is set, the optimal image is automatically selected, and this parameter is automatically cleared. **Range**: OS name and version, for example, EulorOS 2.5.

Status code: 400

Table 15-57 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

Create a node pool.

```
POST https://{endpoint}/v2/{project_id}/pools/{pool_name}/nodepools

{
  "kind" : "NodePool",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
 "apiVersion" : "v2",
 "metadata" : {
   "name" : "nodepool-1",
   "annotations" : { }
 },
 "spec" : {
   "resources" : {
     "nodePool" : "nodepool-1",
     "flavor" : "modelarts.vm.2u4g.dcc",
     "count" : 1,
     "maxCount" : 1,
     "network" : {
       "vpc" : "277e9abc-0e6b-431a-9232-cfd25d5fc566",
       "subnet" : "03796378-c356-4c14-826b-e4913aa9c8b9",
       "securityGroups" : [ "0a15b48d-06f1-41e4-b782-ade90087bf59" ]
     }
   }
 }
}
```

Example Responses

Status code: 200

OK.

```
{
 "kind" : "NodePool",
 "apiVersion" : "v2",
 "metadata" : {
   "name" : "nodepool-1",
   "annotations" : { }
 },
 "spec" : {
   "resources" : {
     "nodePool" : "nodepool-1",
     "flavor" : "modelarts.vm.2u4g.dcc",
     "count" : 1,
     "maxCount" : 1,
     "network" : {
       "vpc" : "277e9abc-0e6b-431a-9232-cfd25d5fc566",
       "subnet" : "03796378-c356-4c14-826b-e4913aa9c8b9",
       "securityGroups" : [ "0a15b48d-06f1-41e4-b782-ade90087bf59" ]
     }
   }
 }
}
```

Status code: 400

Bad request

```
{
 "error_code" : "ModelArts.50004000",
 "error_msg" : "Bad request."
}
```

Status Codes

Status Code	Description
200	OK.
400	Bad request

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

15.3 Obtaining Details About a Specified Node Pool

Function

This API is used to obtain the details of a specified node pool. This API is used when you need to obtain the details about a node pool, such as the configuration, status, resource usage, or resource management. Before using this API, ensure that the node pool exists and you have the permission to access the node pool. After the API is called, the system returns the details about the node pool, including the node pool ID, name, number of nodes, status, creation time, and configuration parameters. If the node pool does not exist, the user does not have the permission to access the node pool, or the node pool is unavailable, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v2/{project_id}/pools/{pool_name}/nodepools/{nodepool_name}

Table 15-58 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
pool_name	Yes	String	**Definition**: Resource pool name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
nodepool_name	Yes	String	**Definition**: Node pool name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 15-59 Query Parameters

Parameter	Mandatory	Type	Description
continue	No	String	**Definition**: Position of the previous page during pagination query. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
limit	No	String	**Definition**: Number of records returned in a single pagination query. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-60 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version. **Range**: • **v2**
kind	String	Node pool type. The options are as follows: • **NodePool**: node pool
metadata	**NodePoolMetadata** object	**Definition**: Node pool metadata.
spec	**NodePoolSpec** object	**Definition**: Node pool expectation.
status	**NodePoolStatus** object	**Definition**: Node pool status.

Table 15-61 NodePoolMetadata

Parameter	Type	Description
name	String	**Definition**: Node pool name. You can specify the name. If not specified, the default name is used. **Range**: N/A

Table 15-62 NodePoolSpec

Parameter	Type	Description
resources	**PoolResource** object	**Definition**: List of resources in a node pool, including resource flavors, quantity, and custom configurations. **Range**: N/A

Table 15-63 PoolResource

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor name, for example, **modelarts.vm.gpu.t4u8**. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
count	Integer	**Definition**: Committed specifications. **Range**: N/A.
maxCount	Integer	**Definition**: Elastic usage of the resource flavor. This parameter value is the same the **count** value in a physical pool. **Range**: N/A.
azs	Array of **PoolNodeAz** objects	**Definition**: AZ information of nodes in the resource pool.
nodePool	String	**Definition**: Node pool name, for example, **nodePool-1**. **Range**: N/A.
taints	Array of **Taints** objects	**Definition**: Taints to be added to nodes to set anti-affinity. This parameter cannot be specified for a non-privileged pool.
labels	Map<String,String>	**Definition**: Kubernetes label, in key-value pair format.
tags	Array of **UserTags** objects	**Definition**: Resource tag. This parameter cannot be specified for a non-privileged pool.
network	**NodeNetwork** object	**Definition**: Network configuration. This parameter cannot be specified for a non-privileged pool.
extendParams	**ResourceExtendParams** object	**Definition**: Custom configuration.
creatingStep	**CreatingStep** object	**Definition**: Information about batch creation.
rootVolume	**RootVolume** object	**Definition**: Information about the custom system disk (cloud hard disk).
dataVolumes	Array of **DataVolumeItem** objects	**Definition**: List of custom data disks (cloud hard disks).
volumeGroupConfigs	Array of **VolumeGroupConfig** objects	**Definition**: Advanced disk configuration. This parameter is mandatory when a custom data disk exists.
os	**Os** object	**Definition**: OS image information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-64 Taints

Parameter	Type	Description
key	String	**Definition**: Key. **Range**: N/A
value	String	Value.
effect	String	Effect.

Table 15-65 UserTags

Parameter	Type	Description
key	String	**Definition**: Key. The value cannot start with **CCE-** or **__type_baremetal**. **Range**: N/A
value	String	Value.

Table 15-66 NodeNetwork

Parameter	Type	Description
vpc	String	• **Definition**: VPC ID. **Range**: N/A.
subnet	String	**Definition**: Subnet ID. **Range**: N/A.
securityGroups	Array of strings	**Definition**: Security group ID set.

Table 15-67 ResourceExtendParams

Parameter	Type	Description
dockerBaseSize	String	**Definition**: Container image space of a node. **Range**: • **Specified**: The default value of dockerBaseSize ranges from **50** to **500**. However, the actual value is restricted by the container data disk size of the node. • **Unlimited**: *dockerBaseSize="0, indicating that the container image space is not limited.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
postInstall	String	**Definition**: Post-installation script. The entered value must be encoded using Base64. **Range**: N/A.
runtime	String	**Definition**: Container runtime. **Range**: • **docker**: Container runtime. It is the most commonly used container engine, which is used to create and manage container instances based on container images. • **containerd**: Industrial-grade container runtime. It focuses on container lifecycle management and is one of the core components at the bottom layer of Docker. It can also be deployed independently.
labelPolicyOnExistingNodes	String	**Definition**: Kubernetes label update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
taintPolicyOnExistingNodes	String	**Definition**: Kubernetes taint update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
tagPolicyOnExistingNodes	String	**Definition**: Resource tag update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
XParameterPlane-Subnet	String	**Definition**: Subnet ID used for data transmission on the parameter plane between physical clusters. The value cannot be the same as the node subnet or container subnet. **Range**: N/A.
nodePoolName	String	**Definition**: Name of the node pool specified by you. The value is a string of 2 to 50 characters, consisting of lowercase letters, hyphens (-), and digits. It must start with a lowercase letter and cannot end with a hyphen (-) or **-default**. **Range**: N/A.

Table 15-68 CreatingStep

Parameter	Type	Description
step	Integer	**Definition**: Step of a supernode. **Constraints**: N/A **Range**: Only the step contained in the resource specification details is supported. **Default Value**: N/A
type	String	**Definition**: Batch creation type. **Constraints**: N/A **Range**: • **hyperinstance**: supernode **Default Value**: N/A

Table 15-69 RootVolume

Parameter	Type	Description
volumeType	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
size	String	**Definition**: Disk size, in GiB. **Range**: N/A.

Table 15-70 DataVolumeItem

Parameter	Type	Description
volumeType	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk
size	String	**Definition**: Disk size, in GiB. **Range**: N/A.
count	Integer	**Definition**: Number of disks. **Range**: N/A.
extendParams	**VolumeExtendParams** object	**Definition**: Custom disk configuration.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-71 VolumeExtendParams

Parameter	Type	Description
volumeGroup	String	**Definition**: Name of a disk group, which is used to divide storage space. **Range**: • **vgpaas**: container disk. • **default**: common data disk, which is mounted in default mode. • **vguser**: common data disk, which is mounted to a specified path. The group name varies depending on the path, for example, **vguser1** and **vguser2**. • **vg-everest-localvolume-persistent**: common data disk, which is used as the persistent storage volume. • **vg-everest-localvolume-ephemeral**: common data disk, which is used as a temporary storage volume.

Table 15-72 VolumeGroupConfig

Parameter	Type	Description
volumeGroup	String	**Definition**: Disk group name. Index of the volume group in the dataVolumes. **Range**: N/A.
dockerThinPool	Integer	**Definition**: Percentage of data disks designated as container disks. This parameter can be specified only when **volumeGroup** is **vgpaas** (container disk). **Range**: N/A.
lvmConfig	**LvmConfig** object	**Definition**: LVM configuration management.
types	Array of strings	**Definition**: Storage type. Options: • **volume**: Cloud hard disk. When **dataVolumes** is specified, the default value is used. • **local**: Local disk. This parameter must be specified when a local disk is used.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-73 LvmConfig

Parameter	Type	Description
lvType	String	**Definition**: LVM write mode. **Range**: ● **linear**: Linear mode. ● **striped**: Striped mode in which multiple disks are used to form a strip to improve disk performance.
path	String	**Definition**: Disk mount path. This parameter takes effect only in user configuration. The value is an absolute path. Digits, letters, periods (.), hyphens (-), and underscores (_) are allowed. **Range**: N/A.

Table 15-74 Os

Parameter	Type	Description
name	String	**Definition**: OS name and version, for example, EulorOS 2.5. This parameter can be left blank when a private image is specified. **Range**: N/A.
imageId	String	**Definition**: OS image ID. **Range**: N/A.
imageType	String	**Definition**: OS image type. This parameter must be specified when a private image is set. By default, the preset image is used. You do not need to specify this field. **Range**: ● **private**: private images ● "": The preset image is used.
autoMatch	String	**Definition**: Automatic OS image matching configuration. If this parameter is set, the optimal image is automatically selected, and this parameter is automatically cleared. **Range**: OS name and version, for example, EulorOS 2.5.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-75 NodePoolStatus

Parameter	Type	Description
resources	**resources** object	**Definition**: Resources in different states in a node pool.

Table 15-76 resources

Parameter	Type	Description
creating	**PoolResourceFlavorCount** object	**Definition**: Number of resources that are being created.
available	**PoolResourceFlavorCount** object	**Definition**: Number of available resources.
abnormal	**PoolResourceFlavorCount** object	**Definition**: Number of abnormal resources.
deleting	**PoolResourceFlavorCount** object	**Definition**: Number of resources that are being deleted.

Table 15-77 PoolResourceFlavorCount

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor ID. **Range**: N/A
count	Integer	**Definition**: Number of resource specification instances in a resource pool. **Range**: N/A
maxCount	Integer	**Definition**: Number of elastic resource specification instances in a resource pool. The value of this parameter in a physical pool is the same as that of **count**. **Range**: N/A
azs	Array of **PoolNodeAz** objects	**Definition**: AZ distribution of the resource specification instances to be created in a resource pool.
nodePool	String	**Definition**: Node pool ID. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-78 PoolNodeAz

Parameter	Type	Description
az	String	**Definition**: AZ name. **Range**: N/A
count	Integer	**Definition**: Number of AZ resource instances. **Range**: N/A

Status code: 400

Table 15-79 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

Obtain details about a specified node pool.

```
GET https://{endpoint}/v2/{project_id}/pools/{pool_name}/nodepools/{nodepool_name}

{ }
```

Example Responses

Status code: 200

OK.

```
{
  "kind" : "NodePool",
  "apiVersion" : "v2",
  "metadata" : {
    "name" : "nodepool-1"
  },
  "spec" : {
    "resources" : {
      "nodePool" : "nodepool-1",
      "flavor" : "modelarts.vm.2u4g.dcc",
      "count" : 1,
      "maxCount" : 1,
      "network" : {
        "vpc" : "277e9abc-0e6b-431a-9232-cfd25d5fc566",
        "subnet" : "03796378-c356-4c14-826b-e4913aa9c8b9",
        "securityGroups" : [ "0a15b48d-06f1-41e4-b782-ade90087bf59" ]
      }
    }
  },
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
 "status" : {
  "resources" : {
   "available" : {
    "nodePool" : "nodepool-1",
    "flavor" : "modelarts.vm.2u4g.dcc",
    "count" : 1,
    "maxCount" : 1,
    "azs" : [ {
     "az" : "cn-north-7c",
     "count" : 1
    } ]
   }
  }
 }
}
```

Status code: 400

Bad request

```
{
 "error_code" : "ModelArts.50004000",
 "error_msg" : "Bad request. invalid nodepool name"
}
```

Status Codes

Status Code	Description
200	OK.
400	Bad request

Error Codes

See **Error Codes**.

15.4 Updating a Node Pool

Function

This API is used to update the configurations of a specified node pool. This API is used when you need to expand the capacity of a node pool, adjust node specifications, optimize resource allocation, or repair node pool configurations. Before using this API, ensure that the node pool exists and you have the administrator permissions. After the update, the configurations of the node pool will be updated, including the number of nodes, node specifications, and network configurations. If the node pool does not exist, the user does not have the permission to operate the node pool, or the configuration parameters are incorrect, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

PATCH /v2/{project_id}/pools/{pool_name}/nodepools/{nodepool_name}

Table 15-80 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Definition**: Resource pool name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
nodepool_name	Yes	String	**Definition**: Node pool name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 15-81 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	**Definition**: Message body type (format). **Constraints**: N/A **Range** • application/merge-patch+json **Default Value**: N/A

Table 15-82 Request body parameters

Parameter	Mandatory	Type	Description
metadata	No	PatchNodePoolMetaVO object	**Definition**: Node pool metadata.
spec	Yes	NodePoolSpec object	**Definition**: Request body for updating a node pool.

Table 15-83 PatchNodePoolMetaVO

Parameter	Mandatory	Type	Description
annotations	No	PatchNodePoolAnnotations object	**Definition**: Node pool annotations.

Table 15-84 PatchNodePoolAnnotations

Parameter	Mandatory	Type	Description
os.modelarts/billing.mode	No	String	**Definition**: Specifies the billing mode. If this parameter is not specified, new nodes use the existing settings for the resource pool. **Range**: • **0**: Pay-per-use

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
os.modelarts/period.num	No	String	**Definition**: Subscription period on a yearly/monthly basis, for example, **2**. This parameter is mandatory when the billing mode is yearly/monthly. **Range**: N/A.
os.modelarts/period.type	No	String	**Definition**: Subscription type on a yearly/monthly basis. This parameter is mandatory when the billing mode is yearly/monthly. **Range**: • **2**: Monthly • **3**: Year
os.modelarts/auto.renew	No	String	**Definition**: Specifies whether auto-renewal is enabled. If this parameter is not specified, new nodes use the existing settings for the resource pool. **Range**: • **0**: Auto-renewal disabled (default value) • **1**: Auto-renewal enabled
os.modelarts/promotion.info	No	String	**Definition**: Discount selected on the operations platform. **Range**: N/A.
os.modelarts/service.console.url	No	String	**Definition**: URL of the page displayed after the subscription order is paid. **Range**: N/A.
os.modelarts/order.id	No	String	**Definition**: Order ID, which is mandatory for creating a yearly/monthly resource or changing the billing mode. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-85 NodePoolSpec

Parameter	Mandatory	Type	Description
resources	Yes	**PoolResource** object	**Definition**: List of resources in a node pool, including resource flavors, quantity, and custom configurations. **Range**: N/A

Table 15-86 PoolResource

Parameter	Mandatory	Type	Description
flavor	Yes	String	**Definition**: Resource flavor name, for example, **modelarts.vm.gpu.t4u8**. **Range**: N/A.
count	Yes	Integer	**Definition**: Committed specifications. **Range**: N/A.
maxCount	Yes	Integer	**Definition**: Elastic usage of the resource flavor. This parameter value is the same the **count** value in a physical pool. **Range**: N/A.
azs	No	Array of **PoolNodeAz** objects	**Definition**: AZ information of nodes in the resource pool.
nodePool	No	String	**Definition**: Node pool name, for example, **nodePool-1**. **Range**: N/A.
taints	No	Array of **Taints** objects	**Definition**: Taints to be added to nodes to set anti-affinity. This parameter cannot be specified for a non-privileged pool.
labels	No	Map<String,String>	**Definition**: Kubernetes label, in key-value pair format.
tags	No	Array of **UserTags** objects	**Definition**: Resource tag. This parameter cannot be specified for a non-privileged pool.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
network	No	**NodeNetwork** object	**Definition**: Network configuration. This parameter cannot be specified for a non-privileged pool.
extendParams	No	**ResourceExtendParams** object	**Definition**: Custom configuration.
creatingStep	No	**CreatingStep** object	**Definition**: Information about batch creation.
rootVolume	No	**RootVolume** object	**Definition**: Information about the custom system disk (cloud hard disk).
dataVolumes	No	Array of **DataVolumeItem** objects	**Definition**: List of custom data disks (cloud hard disks).
volumeGroupConfigs	No	Array of **VolumeGroupConfig** objects	**Definition**: Advanced disk configuration. This parameter is mandatory when a custom data disk exists.
os	No	**Os** object	**Definition**: OS image information.

Table 15-87 PoolNodeAz

Parameter	Mandatory	Type	Description
az	Yes	String	**Definition**: AZ name. **Range**: N/A
count	Yes	Integer	**Definition**: Number of AZ resource instances. **Range**: N/A

Table 15-88 Taints

Parameter	Mandatory	Type	Description
key	Yes	String	**Definition**: Key. **Range**: N/A
value	No	String	Value.
effect	Yes	String	Effect.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-89 UserTags

Parameter	Mandatory	Type	Description
key	Yes	String	**Definition**: Key. The value cannot start with **CCE-** or **__type_baremetal**. **Range**: N/A
value	Yes	String	Value.

Table 15-90 NodeNetwork

Parameter	Mandatory	Type	Description
vpc	No	String	• **Definition**: VPC ID. **Range**: N/A.
subnet	No	String	**Definition**: Subnet ID. **Range**: N/A.
securityGroups	No	Array of strings	**Definition**: Security group ID set.

Table 15-91 ResourceExtendParams

Parameter	Mandatory	Type	Description
dockerBaseSize	No	String	**Definition**: Container image space of a node. **Range**: • **Specified**: The default value of dockerBaseSize ranges from **50** to **500**. However, the actual value is restricted by the container data disk size of the node. • **Unlimited**: *dockerBaseSize="0, indicating that the container image space is not limited.
postInstall	No	String	**Definition**: Post-installation script. The entered value must be encoded using Base64. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
runtime	No	String	**Definition**: Container runtime. **Range**: • **docker**: Container runtime. It is the most commonly used container engine, which is used to create and manage container instances based on container images. • **containerd**: Industrial-grade container runtime. It focuses on container lifecycle management and is one of the core components at the bottom layer of Docker. It can also be deployed independently.
labelPolicyOnExistingNodes	No	String	**Definition**: Kubernetes label update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
taintPolicyOnExistingNodes	No	String	**Definition**: Kubernetes taint update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
tagPolicyOnExistingNodes	No	String	**Definition**: Resource tag update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
XParameterPlaneSubnet	No	String	**Definition**: Subnet ID used for data transmission on the parameter plane between physical clusters. The value cannot be the same as the node subnet or container subnet. **Range**: N/A.
nodePoolName	No	String	**Definition**: Name of the node pool specified by you. The value is a string of 2 to 50 characters, consisting of lowercase letters, hyphens (-), and digits. It must start with a lowercase letter and cannot end with a hyphen (-) or **-default**. **Range**: N/A.

Table 15-92 CreatingStep

Parameter	Mandatory	Type	Description
step	No	Integer	**Definition**: Step of a supernode. **Constraints**: N/A **Range**: Only the step contained in the resource specification details is supported. **Default Value**: N/A
type	No	String	**Definition**: Batch creation type. **Constraints**: N/A **Range**: • **hyperinstance**: supernode **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-93 RootVolume

Parameter	Mandatory	Type	Description
volumeType	Yes	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk
size	Yes	String	**Definition**: Disk size, in GiB. **Range**: N/A.

Table 15-94 DataVolumeItem

Parameter	Mandatory	Type	Description
volumeType	Yes	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk
size	Yes	String	**Definition**: Disk size, in GiB. **Range**: N/A.
count	No	Integer	**Definition**: Number of disks. **Range**: N/A.
extendParams	Yes	**VolumeExtendParams** object	**Definition**: Custom disk configuration.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-95 VolumeExtendParams

Parameter	Mandatory	Type	Description
volumeGroup	Yes	String	**Definition**: Name of a disk group, which is used to divide storage space. **Range**: • **vgpaas**: container disk. • **default**: common data disk, which is mounted in default mode. • **vguser**: common data disk, which is mounted to a specified path. The group name varies depending on the path, for example, **vguser1** and **vguser2**. • **vg-everest-localvolume-persistent**: common data disk, which is used as the persistent storage volume. • **vg-everest-localvolume-ephemeral**: common data disk, which is used as a temporary storage volume.

Table 15-96 VolumeGroupConfig

Parameter	Mandatory	Type	Description
volumeGroup	Yes	String	**Definition**: Disk group name. Index of the volume group in the dataVolumes. **Range**: N/A.
dockerThinPool	No	Integer	**Definition**: Percentage of data disks designated as container disks. This parameter can be specified only when **volumeGroup** is **vgpaas** (container disk). **Range**: N/A.
lvmConfig	No	**LvmConfig** object	**Definition**: LVM configuration management.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
types	No	Array of strings	**Definition**: Storage type. Options: • **volume**: Cloud hard disk. When **dataVolumes** is specified, the default value is used. • **local**: Local disk. This parameter must be specified when a local disk is used.

Table 15-97 LvmConfig

Parameter	Mandatory	Type	Description
lvType	Yes	String	**Definition**: LVM write mode. **Range**: • **linear**: Linear mode. • **striped**: Striped mode in which multiple disks are used to form a strip to improve disk performance.
path	No	String	**Definition**: Disk mount path. This parameter takes effect only in user configuration. The value is an absolute path. Digits, letters, periods (.), hyphens (-), and underscores (_) are allowed. **Range**: N/A.

Table 15-98 Os

Parameter	Mandatory	Type	Description
name	No	String	**Definition**: OS name and version, for example, EulorOS 2.5. This parameter can be left blank when a private image is specified. **Range**: N/A.
imageId	No	String	**Definition**: OS image ID. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
imageType	No	String	**Definition**: OS image type. This parameter must be specified when a private image is set. By default, the preset image is used. You do not need to specify this field. **Range**: • **private**: private images • "": The preset image is used.
autoMatch	No	String	**Definition**: Automatic OS image matching configuration. If this parameter is set, the optimal image is automatically selected, and this parameter is automatically cleared. **Range**: OS name and version, for example, EulorOS 2.5.

Response Parameters

Status code: 200

Table 15-99 Response body parameters

Parameter	Type	Description
metadata	**PatchNodePoolMetaVO** object	**Definition**: Node pool metadata.
spec	**NodePoolSpec** object	**Definition**: Request body for updating a node pool.

Table 15-100 PatchNodePoolMetaVO

Parameter	Type	Description
annotations	**PatchNodePoolAnnotations** object	**Definition**: Node pool annotations.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-101 PatchNodePoolAnnotations

Parameter	Type	Description
os.modelarts/billing.mode	String	**Definition**: Specifies the billing mode. If this parameter is not specified, new nodes use the existing settings for the resource pool. **Range**: ● **0**: Pay-per-use
os.modelarts/period.num	String	**Definition**: Subscription period on a yearly/monthly basis, for example, **2**. This parameter is mandatory when the billing mode is yearly/monthly. **Range**: N/A.
os.modelarts/period.type	String	**Definition**: Subscription type on a yearly/monthly basis. This parameter is mandatory when the billing mode is yearly/monthly. **Range**: ● **2**: Monthly ● **3**: Year
os.modelarts/auto.renew	String	**Definition**: Specifies whether auto-renewal is enabled. If this parameter is not specified, new nodes use the existing settings for the resource pool. **Range**: ● **0**: Auto-renewal disabled (default value) ● **1**: Auto-renewal enabled
os.modelarts/promotion.info	String	**Definition**: Discount selected on the operations platform. **Range**: N/A.
os.modelarts/service.console.url	String	**Definition**: URL of the page displayed after the subscription order is paid. **Range**: N/A.
os.modelarts/order.id	String	**Definition**: Order ID, which is mandatory for creating a yearly/monthly resource or changing the billing mode. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-102 NodePoolSpec

Parameter	Type	Description
resources	**PoolResource** object	**Definition**: List of resources in a node pool, including resource flavors, quantity, and custom configurations. **Range**: N/A

Table 15-103 PoolResource

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor name, for example, **modelarts.vm.gpu.t4u8**. **Range**: N/A.
count	Integer	**Definition**: Committed specifications. **Range**: N/A.
maxCount	Integer	**Definition**: Elastic usage of the resource flavor. This parameter value is the same the **count** value in a physical pool. **Range**: N/A.
azs	Array of **PoolNodeAz** objects	**Definition**: AZ information of nodes in the resource pool.
nodePool	String	**Definition**: Node pool name, for example, **nodePool-1**. **Range**: N/A.
taints	Array of **Taints** objects	**Definition**: Taints to be added to nodes to set anti-affinity. This parameter cannot be specified for a non-privileged pool.
labels	Map<String,String>	**Definition**: Kubernetes label, in key-value pair format.
tags	Array of **UserTags** objects	**Definition**: Resource tag. This parameter cannot be specified for a non-privileged pool.
network	**NodeNetwork** object	**Definition**: Network configuration. This parameter cannot be specified for a non-privileged pool.
extendParams	**ResourceExtendParams** object	**Definition**: Custom configuration.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
creatingStep	**CreatingStep** object	**Definition**: Information about batch creation.
rootVolume	**RootVolume** object	**Definition**: Information about the custom system disk (cloud hard disk).
dataVolumes	Array of **DataVolumeItem** objects	**Definition**: List of custom data disks (cloud hard disks).
volumeGroupConfigs	Array of **VolumeGroupConfig** objects	**Definition**: Advanced disk configuration. This parameter is mandatory when a custom data disk exists.
os	**Os** object	**Definition**: OS image information.

Table 15-104 PoolNodeAz

Parameter	Type	Description
az	String	**Definition**: AZ name. **Range**: N/A
count	Integer	**Definition**: Number of AZ resource instances. **Range**: N/A

Table 15-105 Taints

Parameter	Type	Description
key	String	**Definition**: Key. **Range**: N/A
value	String	Value.
effect	String	Effect.

Table 15-106 UserTags

Parameter	Type	Description
key	String	**Definition**: Key. The value cannot start with **CCE-** or **__type_baremetal**. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
value	String	Value.

Table 15-107 NodeNetwork

Parameter	Type	Description
vpc	String	• **Definition**: VPC ID. **Range**: N/A.
subnet	String	**Definition**: Subnet ID. **Range**: N/A.
securityGroups	Array of strings	**Definition**: Security group ID set.

Table 15-108 ResourceExtendParams

Parameter	Type	Description
dockerBaseSize	String	**Definition**: Container image space of a node. **Range**: • **Specified**: The default value of dockerBaseSize ranges from **50** to **500**. However, the actual value is restricted by the container data disk size of the node. • **Unlimited**: *dockerBaseSize="0, indicating that the container image space is not limited.
postInstall	String	**Definition**: Post-installation script. The entered value must be encoded using Base64. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
runtime	String	**Definition**: Container runtime. **Range**: • **docker**: Container runtime. It is the most commonly used container engine, which is used to create and manage container instances based on container images. • **containerd**: Industrial-grade container runtime. It focuses on container lifecycle management and is one of the core components at the bottom layer of Docker. It can also be deployed independently.
labelPolicyOnExistingNodes	String	**Definition**: Kubernetes label update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
taintPolicyOnExistingNodes	String	**Definition**: Kubernetes taint update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
tagPolicyOnExistingNodes	String	**Definition**: Resource tag update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
XParameterPlaneSubnet	String	**Definition**: Subnet ID used for data transmission on the parameter plane between physical clusters. The value cannot be the same as the node subnet or container subnet. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
nodePoolName	String	**Definition**: Name of the node pool specified by you. The value is a string of 2 to 50 characters, consisting of lowercase letters, hyphens (-), and digits. It must start with a lowercase letter and cannot end with a hyphen (-) or **-default**. **Range**: N/A.

Table 15-109 CreatingStep

Parameter	Type	Description
step	Integer	**Definition**: Step of a supernode. **Constraints**: N/A **Range**: Only the step contained in the resource specification details is supported. **Default Value**: N/A
type	String	**Definition**: Batch creation type. **Constraints**: N/A **Range**: • **hyperinstance**: supernode **Default Value**: N/A

Table 15-110 RootVolume

Parameter	Type	Description
volumeType	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk
size	String	**Definition**: Disk size, in GiB. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-111 DataVolumeItem

Parameter	Type	Description
volumeType	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk
size	String	**Definition**: Disk size, in GiB. **Range**: N/A.
count	Integer	**Definition**: Number of disks. **Range**: N/A.
extendParams	**VolumeExtendParams** object	**Definition**: Custom disk configuration.

Table 15-112 VolumeExtendParams

Parameter	Type	Description
volumeGroup	String	**Definition**: Name of a disk group, which is used to divide storage space. **Range**: • **vgpaas**: container disk. • **default**: common data disk, which is mounted in default mode. • **vguser**: common data disk, which is mounted to a specified path. The group name varies depending on the path, for example, **vguser1** and **vguser2**. • **vg-everest-localvolume-persistent**: common data disk, which is used as the persistent storage volume. • **vg-everest-localvolume-ephemeral**: common data disk, which is used as a temporary storage volume.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-113 VolumeGroupConfig

Parameter	Type	Description
volumeGroup	String	**Definition**: Disk group name. Index of the volume group in the dataVolumes. **Range**: N/A.
dockerThinPool	Integer	**Definition**: Percentage of data disks designated as container disks. This parameter can be specified only when **volumeGroup** is **vgpaas** (container disk). **Range**: N/A.
lvmConfig	**LvmConfig** object	**Definition**: LVM configuration management.
types	Array of strings	**Definition**: Storage type. Options: • **volume**: Cloud hard disk. When **dataVolumes** is specified, the default value is used. • **local**: Local disk. This parameter must be specified when a local disk is used.

Table 15-114 LvmConfig

Parameter	Type	Description
lvType	String	**Definition**: LVM write mode. **Range**: • **linear**: Linear mode. • **striped**: Striped mode in which multiple disks are used to form a strip to improve disk performance.
path	String	**Definition**: Disk mount path. This parameter takes effect only in user configuration. The value is an absolute path. Digits, letters, periods (.), hyphens (-), and underscores (_) are allowed. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-115 Os

Parameter	Type	Description
name	String	**Definition**: OS name and version, for example, EulorOS 2.5. This parameter can be left blank when a private image is specified. **Range**: N/A.
imageId	String	**Definition**: OS image ID. **Range**: N/A.
imageType	String	**Definition**: OS image type. This parameter must be specified when a private image is set. By default, the preset image is used. You do not need to specify this field. **Range**: • **private**: private images • "": The preset image is used.
autoMatch	String	**Definition**: Automatic OS image matching configuration. If this parameter is set, the optimal image is automatically selected, and this parameter is automatically cleared. **Range**: OS name and version, for example, EulorOS 2.5.

Status code: 400

Table 15-116 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

Update a node pool.

```
PATCH https://{endpoint}/v2/{project_id}/pools/{pool_name}/nodepools/{nodepool_name}

{
  "spec" : {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "resources" : {
    "nodePool" : "modelarts.vm.2u4g.dcc-Default",
    "flavor" : "modelarts.vm.2u4g.dcc",
    "count" : 1,
    "maxCount" : 1,
    "network" : {
      "vpc" : "277e9abc-0e6b-431a-9232-cfd25d5fc566",
      "subnet" : "03796378-c356-4c14-826b-e4913aa9c8b9",
      "securityGroups" : [ "0a15b48d-06f1-41e4-b782-ade90087bf59" ]
    }
  }
 }
}
```

Example Responses

Status code: 200

OK.

```
{
 "spec" : {
  "resources" : {
    "nodePool" : "modelarts.vm.2u4g.dcc-Default",
    "flavor" : "modelarts.vm.2u4g.dcc",
    "count" : 1,
    "maxCount" : 1,
    "network" : {
      "vpc" : "277e9abc-0e6b-431a-9232-cfd25d5fc566",
      "subnet" : "03796378-c356-4c14-826b-e4913aa9c8b9",
      "securityGroups" : [ "0a15b48d-06f1-41e4-b782-ade90087bf59" ]
    }
  }
 }
}
```

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

15.5 Deleting a Node Pool

Function

This API is used to remove a created node pool. This function is not supported for yearly/monthly resource pools. This API is used when you need to delete a specified node pool when the tasks in the node pool are complete, the configuration is incorrect, or resources need to be cleared. Before using this API, ensure that the node pool exists and you have the administrator permissions. After the deletion, the node pool is permanently removed, and related resources and configurations are cleared. If the node pool does not exist, the user does not have the permission to perform the operation, or the node pool cannot be deleted, for example, it is a yearly/monthly resource pool or the node pool is in use, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

DELETE /v2/{project_id}/pools/{pool_name}/nodepools/{nodepool_name}

Table 15-117 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
pool_name	Yes	String	**Definition**: Resource pool name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
nodepool_name	Yes	String	**Definition**: Node pool name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 15-118 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version. **Range**: • **v2**
kind	String	Node pool type. The options are as follows: • **NodePool**: node pool
metadata	**NodePoolMetadata** object	**Definition**: Node pool metadata.
spec	**NodePoolSpec** object	**Definition**: Node pool expectation.
status	**NodePoolStatus** object	**Definition**: Node pool status.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-119 NodePoolMetadata

Parameter	Type	Description
name	String	**Definition**: Node pool name. You can specify the name. If not specified, the default name is used. **Range**: N/A

Table 15-120 NodePoolSpec

Parameter	Type	Description
resources	**PoolResource** object	**Definition**: List of resources in a node pool, including resource flavors, quantity, and custom configurations. **Range**: N/A

Table 15-121 PoolResource

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor name, for example, **modelarts.vm.gpu.t4u8**. **Range**: N/A.
count	Integer	**Definition**: Committed specifications. **Range**: N/A.
maxCount	Integer	**Definition**: Elastic usage of the resource flavor. This parameter value is the same the **count** value in a physical pool. **Range**: N/A.
azs	Array of **PoolNodeAz** objects	**Definition**: AZ information of nodes in the resource pool.
nodePool	String	**Definition**: Node pool name, for example, **nodePool-1**. **Range**: N/A.
taints	Array of **Taints** objects	**Definition**: Taints to be added to nodes to set anti-affinity. This parameter cannot be specified for a non-privileged pool.
labels	Map<String,String>	**Definition**: Kubernetes label, in key-value pair format.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
tags	Array of **UserTags** objects	**Definition**: Resource tag. This parameter cannot be specified for a non-privileged pool.
network	**NodeNetwork** object	**Definition**: Network configuration. This parameter cannot be specified for a non-privileged pool.
extendParams	**ResourceExtendParams** object	**Definition**: Custom configuration.
creatingStep	**CreatingStep** object	**Definition**: Information about batch creation.
rootVolume	**RootVolume** object	**Definition**: Information about the custom system disk (cloud hard disk).
dataVolumes	Array of **DataVolumeItem** objects	**Definition**: List of custom data disks (cloud hard disks).
volumeGroupConfigs	Array of **VolumeGroupConfig** objects	**Definition**: Advanced disk configuration. This parameter is mandatory when a custom data disk exists.
os	**Os** object	**Definition**: OS image information.

Table 15-122 Taints

Parameter	Type	Description
key	String	**Definition**: Key. **Range**: N/A
value	String	Value.
effect	String	Effect.

Table 15-123 UserTags

Parameter	Type	Description
key	String	**Definition**: Key. The value cannot start with **CCE-** or **__type_baremetal**. **Range**: N/A
value	String	Value.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-124 NodeNetwork

Parameter	Type	Description
vpc	String	• **Definition**: VPC ID. **Range**: N/A.
subnet	String	**Definition**: Subnet ID. **Range**: N/A.
securityGroups	Array of strings	**Definition**: Security group ID set.

Table 15-125 ResourceExtendParams

Parameter	Type	Description
dockerBaseSize	String	**Definition**: Container image space of a node. **Range**: • **Specified**: The default value of dockerBaseSize ranges from **50** to **500**. However, the actual value is restricted by the container data disk size of the node. • **Unlimited**: *dockerBaseSize="0, indicating that the container image space is not limited.
postInstall	String	**Definition**: Post-installation script. The entered value must be encoded using Base64. **Range**: N/A.
runtime	String	**Definition**: Container runtime. **Range**: • **docker**: Container runtime. It is the most commonly used container engine, which is used to create and manage container instances based on container images. • **containerd**: Industrial-grade container runtime. It focuses on container lifecycle management and is one of the core components at the bottom layer of Docker. It can also be deployed independently.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
labelPolicyOnExistingNodes	String	**Definition**: Kubernetes label update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: ● **refresh**: Update. ● **ignore**: Do not update.
taintPolicyOnExistingNodes	String	**Definition**: Kubernetes taint update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: ● **refresh**: Update. ● **ignore**: Do not update.
tagPolicyOnExistingNodes	String	**Definition**: Resource tag update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: ● **refresh**: Update. ● **ignore**: Do not update.
XParameterPlaneSubnet	String	**Definition**: Subnet ID used for data transmission on the parameter plane between physical clusters. The value cannot be the same as the node subnet or container subnet. **Range**: N/A.
nodePoolName	String	**Definition**: Name of the node pool specified by you. The value is a string of 2 to 50 characters, consisting of lowercase letters, hyphens (-), and digits. It must start with a lowercase letter and cannot end with a hyphen (-) or **-default**. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-126 CreatingStep

Parameter	Type	Description
step	Integer	**Definition**: Step of a supernode. **Constraints**: N/A **Range**: Only the step contained in the resource specification details is supported. **Default Value**: N/A
type	String	**Definition**: Batch creation type. **Constraints**: N/A **Range**: • **hyperinstance**: supernode **Default Value**: N/A

Table 15-127 RootVolume

Parameter	Type	Description
volumeType	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk
size	String	**Definition**: Disk size, in GiB. **Range**: N/A.

Table 15-128 DataVolumeItem

Parameter	Type	Description
volumeType	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk
size	String	**Definition**: Disk size, in GiB. **Range**: N/A.
count	Integer	**Definition**: Number of disks. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
extendParams	**VolumeExtendParams** object	**Definition**: Custom disk configuration.

Table 15-129 VolumeExtendParams

Parameter	Type	Description
volumeGroup	String	**Definition**: Name of a disk group, which is used to divide storage space. **Range**: • **vgpaas**: container disk. • **default**: common data disk, which is mounted in default mode. • **vguser**: common data disk, which is mounted to a specified path. The group name varies depending on the path, for example, **vguser1** and **vguser2**. • **vg-everest-localvolume-persistent**: common data disk, which is used as the persistent storage volume. • **vg-everest-localvolume-ephemeral**: common data disk, which is used as a temporary storage volume.

Table 15-130 VolumeGroupConfig

Parameter	Type	Description
volumeGroup	String	**Definition**: Disk group name. Index of the volume group in the dataVolumes. **Range**: N/A.
dockerThinPool	Integer	**Definition**: Percentage of data disks designated as container disks. This parameter can be specified only when **volumeGroup** is **vgpaas** (container disk). **Range**: N/A.
lvmConfig	**LvmConfig** object	**Definition**: LVM configuration management.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
types	Array of strings	**Definition**: Storage type. Options: • **volume**: Cloud hard disk. When **dataVolumes** is specified, the default value is used. • **local**: Local disk. This parameter must be specified when a local disk is used.

Table 15-131 LvmConfig

Parameter	Type	Description
lvType	String	**Definition**: LVM write mode. **Range**: • **linear**: Linear mode. • **striped**: Striped mode in which multiple disks are used to form a strip to improve disk performance.
path	String	**Definition**: Disk mount path. This parameter takes effect only in user configuration. The value is an absolute path. Digits, letters, periods (.), hyphens (-), and underscores (_) are allowed. **Range**: N/A.

Table 15-132 Os

Parameter	Type	Description
name	String	**Definition**: OS name and version, for example, EulorOS 2.5. This parameter can be left blank when a private image is specified. **Range**: N/A.
imageId	String	**Definition**: OS image ID. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
imageType	String	**Definition**: OS image type. This parameter must be specified when a private image is set. By default, the preset image is used. You do not need to specify this field. **Range**: • **private**: private images • "": The preset image is used.
autoMatch	String	**Definition**: Automatic OS image matching configuration. If this parameter is set, the optimal image is automatically selected, and this parameter is automatically cleared. **Range**: OS name and version, for example, EulorOS 2.5.

Table 15-133 NodePoolStatus

Parameter	Type	Description
resources	**resources** object	**Definition**: Resources in different states in a node pool.

Table 15-134 resources

Parameter	Type	Description
creating	**PoolResourceFlavorCount** object	**Definition**: Number of resources that are being created.
available	**PoolResourceFlavorCount** object	**Definition**: Number of available resources.
abnormal	**PoolResourceFlavorCount** object	**Definition**: Number of abnormal resources.
deleting	**PoolResourceFlavorCount** object	**Definition**: Number of resources that are being deleted.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-135 PoolResourceFlavorCount

Parameter	Type	Description
flavor	String	**Definition**: Resource flavor ID. **Range**: N/A
count	Integer	**Definition**: Number of resource specification instances in a resource pool. **Range**: N/A
maxCount	Integer	**Definition**: Number of elastic resource specification instances in a resource pool. The value of this parameter in a physical pool is the same as that of **count**. **Range**: N/A
azs	Array of **PoolNodeAz** objects	**Definition**: AZ distribution of the resource specification instances to be created in a resource pool.
nodePool	String	**Definition**: Node pool ID. **Range**: N/A

Table 15-136 PoolNodeAz

Parameter	Type	Description
az	String	**Definition**: AZ name. **Range**: N/A
count	Integer	**Definition**: Number of AZ resource instances. **Range**: N/A

Status code: 400

Table 15-137 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

Delete a node pool.

```
DELETE https://{endpoint}/v2/{project_id}/pools/{pool_name}/nodepools/{nodepool_name}

{ }
```

Example Responses

Status code: 200

success

```
{
  "kind" : "NodePool",
  "apiVersion" : "v2",
  "metadata" : {
    "name" : "nodepool-1"
  },
  "spec" : {
    "resources" : {
      "nodePool" : "nodepool-1",
      "flavor" : "modelarts.vm.2u4g.dcc",
      "count" : 1,
      "maxCount" : 1,
      "network" : {
        "vpc" : "277e9abc-0e6b-431a-9232-cfd25d5fc566",
        "subnet" : "03796378-c356-4c14-826b-e4913aa9c8b9",
        "securityGroups" : [ "0a15b48d-06f1-41e4-b782-ade90087bf59" ]
      }
    }
  },
  "status" : {
    "resources" : {
      "available" : {
        "nodePool" : "nodepool-1",
        "flavor" : "modelarts.vm.2u4g.dcc",
        "count" : 1,
        "maxCount" : 1,
        "azs" : [ {
          "az" : "cn-north-7c",
          "count" : 1
        } ]
      }
    }
  }
}
```

Status code: 400

Bad request

```
{
  "error_code" : "ModelArts.50004000",
  "error_msg" : "Bad request."
}
```

Status Codes

Status Code	Description
200	success

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
400	Bad request

Error Codes

See **Error Codes**.

15.6 Obtaining Nodes in a Node Pool

Function

This API is used to obtain details about all nodes in a specified node pool. This API is used when you need to obtain the details about a node pool, such as the node status, resource usage, or resource management. Before using this API, ensure that the node pool exists and you have the permission to access the node pool. After the API is called, the system returns the node list of the node pool, including the node ID, name, status, IP address, and resource usage. If the node pool does not exist, the user does not have the permission to access the node pool, or the node pool is unavailable, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v2/{project_id}/pools/{pool_name}/nodepools/{nodepool_name}/nodes

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-138 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Definition**: Resource pool name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
nodepool_name	Yes	String	**Definition**: Node pool name. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 15-139 Query Parameters

Parameter	Mandatory	Type	Description
continue	No	String	**Definition**: Position of the previous page during pagination query. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
limit	No	String	**Definition**: Number of records returned in a single pagination query. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-140 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource. **Range**: • **v2**: The current resource version is v2.
kind	String	**Definition**: Resource type. **Range**: • **NodeList**: nodes
metadata	**NodeListMetadata** object	**Definition**: Metadata of a node list.
items	Array of **Node** objects	**Definition**: Node resource list.

Table 15-141 NodeListMetadata

Parameter	Type	Description
continue	String	**Definition**: Offset parameter of the pagination query. **Range**: The value is obtained from the **metadata.continue** field in the response to the last pagination query. An empty value indicates no offset.
remainingItemCount	Long	**Definition**: Number of remaining resources in a pagination query. **Default Value**: N/A

Table 15-142 Node

Parameter	Type	Description
apiVersion	String	**Definition**: API version of the resource. **Range**: • **v2**: The current resource version is v2.
kind	String	**Definition**: Resource type. **Range**: • **Node**: node
metadata	**NodeMetadata** object	**Definition**: Metadata of a node resource.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
spec	**NodeSpec** object	**Definition**: Specifications of a node resource.
status	**NodeStatus** object	**Definition**: Status of a node resource.

Table 15-143 NodeMetadata

Parameter	Type	Description
name	String	**Definition**: Node name. **Range**: N/A
creationTimestamp	String	**Definition**: Creation time. **Range**: N/A
labels	**NodeLabels** object	**Definition**: Node labels.
annotations	**NodeVOAnnotations** object	**Definition**: Node annotations.

Table 15-144 NodeLabels

Parameter	Type	Description
os.modelarts.node/cluster	String	**Definition**: Name of the cluster where the node is located. **Range**: N/A
os.modelarts.node/elastic.quota	String	**Definition**: Logical pool bound to the node. **Range**: N/A
os.modelarts.node/nodepool	String	**Definition**: ID of the node pool where the node is located. **Range**: N/A
os.modelarts.node/batch.uid	String	**Definition**: Batch creation ID. **Range**: N/A
os.modelarts.node/batch.name	String	**Definition**: Batch creation name. **Range**: N/A
os.modelarts.node/batch.type	String	**Definition**: Batch creation type. **Range** • **hyperinstance**: supernode

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts.node/batch.count	String	**Definition**: Number of nodes created in batches. **Range**: N/A
os.modelarts/resource.id	String	**Definition**: Node resource ID. **Range**: N/A
os.modelarts/tenant.domain.id	String	**Definition**: Tenant ID of a node, which records the tenant account under which the node is created. **Range**: N/A
os.modelarts/tenant.project.id	String	**Definition**: Project ID of a node, which records the project under which the node is created. **Range**: N/A
os.modelarts/billing.status	String	**Definition**: Node billing status. **Range** ● **0**: normal ● **1**: frozen ● **2**: deleted or terminated
os.modelarts.node/volcano.scheduler.cabinet-exclusive	String	**Definition**: Whether the node is exclusively occupied by a full-rack job. If yes, tha tag exists and its value is the ID of the exclusive training job. **Range**: N/A
cce.kubectl.kubernetes.io/cabinet	String	**Definition**: IP address of the TOR switch where the node is located. Use hyphens (-) to separate multiple IP addresses of TOR switches. **Range**: N/A
os.modelarts.node/underlying.instance.id	String	**Definition**: Instance ID of the underlying resources of the node, for example, the ECS instance ID of the supernode. **Range**: N/A
os.modelarts.node/ha.redundant.enabled	String	**Definition**: Whether HA redundancy is enabled for the node. **Range** ● **true**: enabled ● **false**: disabled

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
os.modelarts.node/nodepoolname	String	**Definition**: Name of the node pool where the node is located. The value can contain 2 to 50 characters and must start with a lowercase letter. It cannot end with a hyphen (-) or **-default**. Only lowercase letters, hyphens (-), and digits are allowed. **Range**: N/A

Table 15-145 NodeVOAnnotations

Parameter	Type	Description
os.modelarts/npu-topology-placement	String	**Definition**: Topology of the NPU resource usage. The value is a 16-bit binary number, where the first bit from the right indicates PU 1. **1** indicates occupied, and **0** indicates idle. For example, if PUs 1 and 15 are occupied in a 16-PU server, the value is **0100000000000001**. If PUs 1 and 7 are occupied in an 8-PU server, the returned value is **0000000001000001**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 15-146 NodeSpec

Parameter	Type	Description
flavor	String	**Definition**: Node specifications. **Range**: N/A.
os	**Os** object	**Definition**: OS image information.
hostNetwork	**NodeNetwork** object	**Definition**: Node network information.
rootVolume	**VolumeVO** object	**Definition**: System disk information.
dataVolumes	Array of **VolumeVO** objects	**Definition**: Data disk information.
extendParams	**ResourceExtendParams** object	**Definition**: Custom configuration.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-147 Os

Parameter	Type	Description
name	String	**Definition**: OS name and version, for example, EulorOS 2.5. This parameter can be left blank when a private image is specified. **Range**: N/A.
imageId	String	**Definition**: OS image ID. **Range**: N/A.
imageType	String	**Definition**: OS image type. This parameter must be specified when a private image is set. By default, the preset image is used. You do not need to specify this field. **Range**: • **private**: private images • "": The preset image is used.
autoMatch	String	**Definition**: Automatic OS image matching configuration. If this parameter is set, the optimal image is automatically selected, and this parameter is automatically cleared. **Range**: OS name and version, for example, EulorOS 2.5.

Table 15-148 NodeNetwork

Parameter	Type	Description
vpc	String	• **Definition**: VPC ID. **Range**: N/A.
subnet	String	**Definition**: Subnet ID. **Range**: N/A.
securityGroups	Array of strings	**Definition**: Security group ID set.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 15-149 VolumeVO

Parameter	Type	Description
volumeType	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD
size	String	**Definition**: Disk size, in GiB. **Range**: N/A.
count	Integer	**Definition**: Number of disks. If this parameter is not specified, the default value **1** is used. **Range**: N/A.

Table 15-150 ResourceExtendParams

Parameter	Type	Description
dockerBaseSize	String	**Definition**: Container image space of a node. **Range**: • **Specified**: The default value of dockerBaseSize ranges from **50** to **500**. However, the actual value is restricted by the container data disk size of the node. • **Unlimited**: *dockerBaseSize="0, indicating that the container image space is not limited.
postInstall	String	**Definition**: Post-installation script. The entered value must be encoded using Base64. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
runtime	String	**Definition**: Container runtime. **Range**: • **docker**: Container runtime. It is the most commonly used container engine, which is used to create and manage container instances based on container images. • **containerd**: Industrial-grade container runtime. It focuses on container lifecycle management and is one of the core components at the bottom layer of Docker. It can also be deployed independently.
labelPolicyOnExistingNodes	String	**Definition**: Kubernetes label update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
taintPolicyOnExistingNodes	String	**Definition**: Kubernetes taint update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
tagPolicyOnExistingNodes	String	**Definition**: Resource tag update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
XParameterPlaneSubnet	String	**Definition**: Subnet ID used for data transmission on the parameter plane between physical clusters. The value cannot be the same as the node subnet or container subnet. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
nodePoolName	String	**Definition**: Name of the node pool specified by you. The value is a string of 2 to 50 characters, consisting of lowercase letters, hyphens (-), and digits. It must start with a lowercase letter and cannot end with a hyphen (-) or **-default**. **Range**: N/A.

Table 15-151 NodeStatus

Parameter	Type	Description
phase	String	**Definition**: Status of a node. **Range**: • **Available**: The node is available. • **Creating**: The node is being created. • **Deleting**: The node is being deleted. • **Abnormal**: The node is abnormal. • **Checking**: The node is performing a self-check.
az	String	**Definition**: AZ where a node is located. **Range**: N/A
privateIp	String	**Definition**: IP address of a node. **Range**: N/A
resources	**NodeResource** object	**Definition**: Resources of a node.
availableResources	**NodeResource** object	**Definition**: Available resources of a node.

Table 15-152 NodeResource

Parameter	Type	Description
cpu	String	**Definition**: Number of CPU cores on a node. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
memory	String	**Definition**: Memory size of a node, in GiB. **Range**: N/A
nvidia.com/gpu	String	**Definition**: Number of GPUs on a node. **Range**: N/A
huawei.com/ascend-snt3	String	**Definition**: Number of snt3 NPUs on a node. **Range**: N/A
huawei.com/ascend-snt9	String	**Definition**: Number of snt9 NPUs on a node. **Range**: N/A

Status code: 400

Table 15-153 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

Obtain nodes in a node pool.

```
GET https://{endpoint}/v2/{project_id}/pools/{pool_name}/nodepools/{nodepool_name}/nodes

{
  "kind" : "NodeList",
  "apiVersion" : "v2",
  "metadata" : { },
  "items" : [ {
    "kind" : "Node",
    "apiVersion" : "v2",
    "metadata" : {
      "name" : "node-dly-4",
      "creationTimestamp" : "2024-01-29T09:28:26Z",
      "labels" : {
        "os.modelarts.node/cluster" : "dly-lite",
        "os.modelarts.node/nodepool" : "nodepool-1"
      }
    },
    "spec" : {
      "flavor" : "modelarts.vm.2u4g.dcc",
      "hostNetwork" : {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
      "vpc" : "277e9abc-0e6b-431a-9232-cfd25d5fc566",
      "subnet" : "03796378-c356-4c14-826b-e4913aa9c8b9",
      "securityGroups" : [ "0a15b48d-06f1-41e4-b782-ade90087bf59" ]
    }
   },
   "status" : {
    "phase" : "Available",
    "az" : "cn-north-7c",
    "privateIp" : "192.168.1.132",
    "resources" : {
     "cpu" : "1930m",
     "memory" : "1912Mi"
    }
   }
  } ]
}
```

Example Responses

Status code: 200

OK.

```
{
  "kind" : "NodeList",
  "apiVersion" : "v2",
  "metadata" : { },
  "items" : [ {
    "kind" : "Node",
    "apiVersion" : "v2",
    "metadata" : {
      "name" : "node-dly-4",
      "creationTimestamp" : "2024-01-29T09:28:26Z"
    },
    "spec" : {
      "flavor" : "modelarts.vm.2u4g.dcc"
    },
    "status" : {
      "phase" : "Available",
      "az" : "cn-north-7c",
      "privateIp" : "192.168.1.132",
      "resources" : {
        "cpu" : "1930m",
        "memory" : "1912Mi"
      }
    }
  } ]
}
```

Status code: 400

Bad request

```
{
  "error_code" : "ModelArts.50004000",
  "error_msg" : "Bad request. invalid nodepool name"
}
```

Status Codes

Status Code	Description
200	OK.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
400	Bad request

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

16 Order Management

16.1 Querying Order Details

Function

This API is used to query order details.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/orders/{order_name}

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 16-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
order_name	Yes	String	**Range**: N/A

Request Parameters

Table 16-2 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Constraints**: N/A

Response Parameters

Status code: 200

Table 16-3 Response body parameters

Parameter	Type	Description
count	Integer	**Definition**: Number of resources associated with the order. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
items	Array of **OrderDetailItem** objects	**Definition**: Resource information list associated with the order. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 16-4 OrderDetailItem

Parameter	Type	Description
resourceName	String	**Definition**: Resource ID. The value is obtained from the **metadata.name** field in resource details. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
action	String	**Definition**: Type of the resource change associated with the order. **Constraints**: N/A **Range**: • **createPool**: Create a resource pool. • **deletePool**: Delete a resource pool. • **createNode**: Create a node. • **deleteNode**: Delete a node. This option is mainly used for unsubscribing from yearly/monthly nodes. • **renew**: Renew a subscription. • **toPeriodic**: Change the billing mode to yearly/monthly. **Default Value**: N/A
status	String	**Definition**: Change status of the resource associated with the order. **Constraints**: N/A **Range**: • **processing**: The resource is being processed. • **succeed**: The resource is processed. • **failed**: The resource fails to be processed. **Default Value**: N/A
beginTimestamp	String	**Definition**: Timestamp when the resource starts to change, in milliseconds. For example, **1744285793000**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
updateTimestamp	String	**Definition**: Timestamp when the resource is last updated, in milliseconds. For example, **1744285793000**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
message	String	**Definition**: Execution information of resource change, for example, failure cause. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Status code: 400

Table 16-5 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Status code: 404

Table 16-6 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

Query resource information in the order details.

```
GET /v1/{project_id}/orders/{order_name}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Responses

Status code: 200

Default Value: N/A


```
{
  "count" : 4,
  "items" : [ {
    "action" : "createPool",
    "resourcename" : "pool-9495-6f5da086876d4cd084d36f8bd3346036",
    "status" : "succeed",
    "begintimestamp" : 1744285793000,
    "updatetimestamp" : 1744286479000
  }, {
    "action" : "createNode",
    "resourcename" : "os-node-created-8jsnk",
    "status" : "succeed",
    "begintimestamp" : 1744286228000,
    "updatetimestamp" : 1744286479000
  }, {
    "action" : "createNode",
    "resourcename" : "os-node-created-lq4f8",
    "status" : "succeed",
    "begintimestamp" : 1744286228000,
    "updatetimestamp" : 1744286479000
  }, {
    "action" : "createNode",
    "resourcename" : "os-node-created-ggthb",
    "status" : "succeed",
    "begintimestamp" : 1744286228000,
    "updatetimestamp" : 1744286479000
  } ]
}
```


Status code: 400

Bad request.


```
{
  "error_code" : "ModelArts.50004000",
  "error_msg" : "Bad request."
}
```


Status code: 404

Not found.


```
{
  "error_code" : "ModelArts.50015001",
  "error_msg" : "Order {name} not found."
}
```


Status Codes

Status Code	Description
200	**Default Value**: N/A
400	Bad request.
404	Not found.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

17 Plugin Management

17.1 Creating a Plugin

Function

This API is used to create plugin instances.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v2/{project_id}/pools/{pool_name}/plugins

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 17-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	Resource pool name.

Request Parameters

Table 17-2 Request body parameters

Parameter	Mandatory	Type	Description
apiVersion	Yes	String	**Definition**: API resource type. The value is fixed at **Plugin** and cannot be changed. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
kind	Yes	String	API version. The value is fixed at **v2** and cannot be changed.
spec	Yes	**PluginSpec** object	Detailed description of plugin installation or upgrade.

Table 17-3 PluginSpec

Parameter	Mandatory	Type	Description
template	Yes	**Template** object	**Definition**: Template information. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 17-4 Template

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the plugin template to be installed, for example, **log-agent**.
version	No	String	Version of the plugin to be installed or upgraded.
inputs	No	Map<String,Object>	Plugin template installation parameters (varying depending on the plugin). During the plugin upgrade, you need to specify all the installation parameters. If the parameters are not specified, the default values in the plugin template are used. The current plugin installation parameters can be obtained through the API for querying plugin instances.

Response Parameters

Status code: 200

Table 17-5 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version. **Range**: • **v2**
kind	String	Type of the plugin instance. Options: • **Plugin**: plugin
metadata	**PluginMetadata** object	Metadata of the plugin instance.
spec	**PluginSpec** object	Plugin instance details.
status	**PluginStatus** object	Plugin instance status.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 17-6 PluginMetadata

Parameter	Type	Description
name	String	Name of the plugin instance.
creationTimestamp	String	Creation time.

Table 17-7 PluginSpec

Parameter	Type	Description
template	**Template** object	**Definition**: Template information. **Constraints**: N/A

Table 17-8 Template

Parameter	Type	Description
name	String	Name of the plugin template to be installed, for example, **log-agent**.
version	String	Version of the plugin to be installed or upgraded.
inputs	Map<String,Object>	Plugin template installation parameters (varying depending on the plugin). During the plugin upgrade, you need to specify all the installation parameters. If the parameters are not specified, the default values in the plugin template are used. The current plugin installation parameters can be obtained through the API for querying plugin instances.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 17-9 PluginStatus

Parameter	Type	Description
phase	String	Plugin instance status. Options: • **Pending**: The plugin is being installed. • **Running**: All of the plugin instances are running. This specifies that the plugin runs properly. • **Updating**: The plugin is being updated. • **Abnormal**: The plugin instances are abnormal and the plugin cannot be used. You can click the status to view the failure cause. • **Deleting**: The plugin is being deleted.
version	String	Version of the plugin instances.
reason	String	Details about the plugin instance installation failure.
values	String	Installation parameters of the plugin instances. The parameters vary depending on the plugin.
resources	Array of **PluginResources** objects	Resources used by the plugin instances.

Table 17-10 PluginResources

Parameter	Type	Description
involvedObject	**ObjectReference** object	Resource objects referenced by the plugin.
replicas	Integer	Number of replicas of the resource object.
limits	Map<String,String>	Limit on requested resources.
requests	Map<String,String>	Requested resources.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 17-11 ObjectReference

Parameter	Type	Description
kind	String	API type of the resource object, for example, **DaemonSet** and **Deployment**.
apiVersion	String	**Definition**: API version of the resource object. **Range**: N/A
namespace	String	Namespace of the resource object.
name	String	Name of the resource object.
uid	String	Unique ID of the resource object.
resourceVersion	String	Current version of the resource object.

Status code: 400

Table 17-12 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

Create plugin instances.

```
POST https://{endpoint}/v2/{project_id}/pools/{pool_name}/plugins

{
  "apiVersion" : "v2",
  "kind" : "Plugin",
  "spec" : {
    "template" : {
      "version" : "1.6.36",
      "name" : "node-local-dns"
    }
  }
}
```

Example Responses

Status code: 200

Request succeeded.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
  "apiVersion" : "v2",
  "kind" : "Plugin",
  "spec" : {
    "template" : {
      "name" : "node-local-dns",
      "version" : "1.6.36",
      "inputs" : {
        "flavor" : {
          "description" : "High available",
          "name" : "HA",
          "resources" : [ {
            "name" : "node-local-dns-admission-controller",
            "limitsCpu" : "250m",
            "requestsCpu" : "250m",
            "replicas" : 2,
            "limitsMem" : "512Mi",
            "requestsMem" : "512Mi"
          }, {
            "name" : "node-local-dns-cache",
            "limitsCpu" : "500m",
            "requestsCpu" : "25m",
            "limitsMem" : "512Mi",
            "requestsMem" : "5Mi"
          } ],
          "size" : "large"
        },
        "custom" : {
          "enable_dnsconfig_admission" : true,
          "nameserver" : "135.0.0.1",
          "ndots" : "8",
          "search" : "1321"
        }
      }
    }
  }
}
```


Status code: 400

Bad request


```
{
  "error_code" : "ModelArts.50004000",
  "error_msg" : "Bad request."
}
```


Status Codes

Status Code	Description
200	Request succeeded.
400	Bad request

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

17.2 Querying the Plugin List

Function

This API is used to list plugin instances.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v2/{project_id}/pools/{pool_name}/plugins

Table 17-13 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	Resource pool name.

Request Parameters

None

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 17-14 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version. **Range**: • **v2**
kind	String	Resource type. Options: • **PluginList**: plugin list
items	Array of **Plugin** objects	Plugin list of the resource pool.

Table 17-15 Plugin

Parameter	Type	Description
apiVersion	String	**Definition**: API version. **Range**: • **v2**
kind	String	Type of the plugin instance. Options: • **Plugin**: plugin
metadata	**PluginMetadata** object	Metadata of the plugin instance.
spec	**PluginSpec** object	Plugin instance details.
status	**PluginStatus** object	Plugin instance status.

Table 17-16 PluginMetadata

Parameter	Type	Description
name	String	Name of the plugin instance.
creationTimestamp	String	Creation time.

Table 17-17 PluginSpec

Parameter	Type	Description
template	**Template** object	**Definition**: Template information. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 17-18 Template

Parameter	Type	Description
name	String	Name of the plugin template to be installed, for example, **log-agent**.
version	String	Version of the plugin to be installed or upgraded.
inputs	Map<String,Object>	Plugin template installation parameters (varying depending on the plugin). During the plugin upgrade, you need to specify all the installation parameters. If the parameters are not specified, the default values in the plugin template are used. The current plugin installation parameters can be obtained through the API for querying plugin instances.

Table 17-19 PluginStatus

Parameter	Type	Description
phase	String	Plugin instance status. Options: • **Pending**: The plugin is being installed. • **Running**: All of the plugin instances are running. This specifies that the plugin runs properly. • **Updating**: The plugin is being updated. • **Abnormal**: The plugin instances are abnormal and the plugin cannot be used. You can click the status to view the failure cause. • **Deleting**: The plugin is being deleted.
version	String	Version of the plugin instances.
reason	String	Details about the plugin instance installation failure.
values	String	Installation parameters of the plugin instances. The parameters vary depending on the plugin.
resources	Array of **PluginResources** objects	Resources used by the plugin instances.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 17-20 PluginResources

Parameter	Type	Description
involvedObject	**ObjectReference** object	Resource objects referenced by the plugin.
replicas	Integer	Number of replicas of the resource object.
limits	Map<String,String>	Limit on requested resources.
requests	Map<String,String>	Requested resources.

Table 17-21 ObjectReference

Parameter	Type	Description
kind	String	API type of the resource object, for example, **DaemonSet** and **Deployment**.
apiVersion	String	**Definition**: API version of the resource object. **Range**: N/A
namespace	String	Namespace of the resource object.
name	String	Name of the resource object.
uid	String	Unique ID of the resource object.
resourceVersion	String	Current version of the resource object.

Example Requests

Query plugin instances.

```
GET https://{endpoint}/v2/{project_id}/pools/{pool_name}/plugins
```

```
{
  "kind" : "PluginList",
  "apiVersion" : "v2",
  "items" : [ {
    "kind" : "Plugin",
    "apiVersion" : "v2",
    "metadata" : {
      "name" : "lite-cluster-ac7339d4-4858-11ec-9d-0200b0b-gpu-beta",
      "creationTimestamp" : "2025-01-22T03:01:53Z"
    },
    "spec" : {
      "template" : {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
      "name" : "gpu-beta"
    }
  },
  "status" : {
    "phase" : "Running",
    "version" : "1.2.15",
    "reason" : "Upgrade complete"
  }
 }, {
  "kind" : "Plugin",
  "apiVersion" : "v2",
  "metadata" : {
    "name" : "lite-cluster-ac7339d4-4858-11ec-a79d-0255ac100b0b-os-node-agent",
    "creationTimestamp" : "2025-01-22T03:01:53Z"
  },
  "spec" : {
    "template" : {
      "name" : "os-node-agent",
      "version" : "6.8.0-20250219120620",
      "inputs" : {
        "configs" : {
          "metric_config" : {
            "backNodeUp" : true,
            "enable" : true,
            "exporter" : {
              "enable" : false,
              "port" : "10120"
            },
            "namespaces" : [ "monitoring" ],
            "prometheus" : {
              "accessCode" : "",
              "prometheusId" : ""
            },
            "uplink" : "both"
          }
        }
      }
    }
  },
  "status" : {
    "phase" : "Running",
    "version" : "6.8.0-20250219120620",
    "reason" : "Upgrade complete"
  }
 } ]
}
```


Example Responses

Status code: 200

Request succeeded.


```
{
 "kind" : "PluginList",
 "apiVersion" : "v2",
 "items" : [ {
  "kind" : "Plugin",
  "apiVersion" : "v2",
  "metadata" : {
    "name" : "lite-cluster-ac7339d4-4858-11ec-9d-0200b0b-gpu-beta",
    "creationtimestamp" : "2025-01-22T03:01:53Z"
  },
  "spec" : {
    "template" : {
      "name" : "gpu-beta"
    }
  },
  "status" : {
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "phase" : "Running",
    "version" : "1.2.15",
    "reason" : "Upgrade complete"
   }
  }, {
   "kind" : "Plugin",
   "apiVersion" : "v2",
   "metadata" : {
    "name" : "lite-cluster-ac7339d4-4858-11ec-a79d-0255ac100b0b-os-node-agent",
    "creationtimestamp" : "2025-01-22T03:01:53Z"
   },
   "spec" : {
    "template" : {
     "name" : "os-node-agent",
     "version" : "6.8.0-20250219120620",
     "inputs" : {
      "configs" : {
       "metric_config" : {
        "backNodeUp" : true,
        "enable" : true,
        "exporter" : {
         "enable" : false,
         "port" : "10120"
        },
        "namespaces" : [ "monitoring" ],
        "prometheus" : {
         "accessCode" : "",
         "prometheusId" : ""
        },
        "uplink" : "both"
       }
      }
     }
    }
   },
   "status" : {
    "phase" : "Running",
    "version" : "6.8.0-20250219120620",
    "reason" : "Upgrade complete"
   }
  } ]
}
```


Status Codes

Status Code	Description
200	Request succeeded.

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

18 Task Management

18.1 Querying Tasks

Function

This API is used to obtain the jobs 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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v2/{project_id}/jobs

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 18-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 18-2 Query Parameters

Parameter	Mandatory	Type	Description
type	No	String	Task type. Options: • **replace-node**: faulty node replacement task • **reboot-node**: node restart task • **reset-nodes**: node reset task
limit	No	Integer	Maximum number of records on each page. If this parameter is left blank, 100 records are returned by default. A maximum of 500 records are allowed on each page.
offset	No	Integer	Offset of the pagination query. This parameter is left blank when the first page is queried.
since	No	Long	Start time of the query, in milliseconds. By default, the query starts from 30 days ago.
until	No	Long	End time of the query, in milliseconds. The current time is used by default.
resource	No	String	Type of the resource associated with the job. Options: • **pools**: resource pool
name	No	String	Name of the associated resource. This parameter is used together with **resource**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

None

Response Parameters

Status code: 200

Table 18-3 Response body parameters

Parameter	Type	Description
count	Integer	Total number of results.
items	Array of **PoolJob** objects	Job list.

Table 18-4 PoolJob

Parameter	Type	Description
startTimestamp	Long	Time when a job starts to be processed, in milliseconds.
endTimestamp	Long	Job end time, in milliseconds.
jobId	String	Task ID.
jobName	String	Task name.
involvedObjects	String	Resources associated with a job, for example, resource pool description.
inputs	String	Job input parameters.
phase	String	Job status. Options: • **Running**: The job is running. • **Success**: The task has been executed. • **Failed**: The task failed to be executed.
suspend	Boolean	Indicates whether the job is suspended.
type	String	Job type.
conditions	String	Job execution process information.
message	String	Execution information returned when a job fails to be executed.

Status code: 400

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 18-5 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

Query the node restart task list.

```
GET https://{endpoint}/v2/{project_id}/jobs?type=reboot-node

{ }
```

Example Responses

Status code: 200

Job list response body.

```
{
  "count" : 22,
  "items" : [ {
    "startTimestamp" : 1757935854000,
    "endTimestamp" : 1757935891000,
    "jobId" : "8777d6bc-fee5-4c47-b46d-884189898ecb",
    "jobName" : "reboot-node-pool-b15e-6f5da086876d4cd084d36f8bd3346036-tbl97",
    "inputs" : "[{\"name\":\"PoolName\",\"value\":\"pool-b15e-6f5da086876d4cd084d36f8bd3346036\"},
{\"name\":\"NodeName\",\"value\":\"os-node-created-4n6s7\"}]",
    "involvedObjects" : "[{\"kind\":\"Pool\",\"name\":\"pool-
b15e-6f5da086876d4cd084d36f8bd3346036\",\"uid
\":\"df88e877-08fa-44ab-9f0c-2926c4814ea2\",\"apiVersion\":\"os.modelarts.huaweicloud/
v1\",\"resourceVersion\":\"1804287231\"}]",
    "type" : "reboot-node",
    "phase" : "Success",
    "conditions" : "[{\"type\":\"Complete\",\"status\":\"True\",\"lastTransitionTime\":\"2025-09-15T11:31:31Z
\",\"reason\":\"Success\",\"message\":\"reboot progress: total: 1, completed: 1, rebooting: 0, failed: 0\"}]"
  }, {
    "startTimestamp" : 1757934802000,
    "endTimestamp" : 1757934803000,
    "jobId" : "52cf3c70-4e3a-4a28-8e03-3ce075482a0c",
    "jobName" : "reboot-node-pool-b15e-6f5da086876d4cd084d36f8bd3346036-mn4vh",
    "inputs" : "[{\"name\":\"PoolName\",\"value\":\"pool-b15e-6f5da086876d4cd084d36f8bd3346036\"},
{\"name\":\"NodeName\",\"value\":\"os-node-created-62g8b\"}]",
    "involvedObjects" : "[{\"kind\":\"Pool\",\"name\":\"pool-
b15e-6f5da086876d4cd084d36f8bd3346036\",\"uid
\":\"df88e877-08fa-44ab-9f0c-2926c4814ea2\",\"apiVersion\":\"os.modelarts.huaweicloud/
v1\",\"resourceVersion\":\"1804282251\"}]",
    "type" : "reboot-node",
    "phase" : "Failed",
    "conditions" : "[{\"type\":\"Complete\",\"status\":\"False\",\"lastTransitionTime\":\"2025-09-15T11:13:22Z
\",\"reason\":\"Failed\",\"message\":\"reboot progress: total: 1, completed: 0, rebooting: 0, failed: 1,
failedNodes[os-node-created-62g8b: duration must between 900 seconds(15 minutes) and 43200
seconds(12 hours)]\"}]",
    "message" : "os-node-created-62g8b: duration must between 900 seconds(15 minutes) and 43200
seconds(12 hours)"
  } ]
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	Job list response body.
400	Error response

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

19 DevServer Management

19.1 Obtaining Lite Server Service Details

Function

This API is used to obtain Lite Server deployment service details based on the service ID. It is used when you need to view the details of a deployed service, such as the status and APIs of the service. Before using this API, ensure that you have the permission to view services. After the query, the API returns the details of the deployed service, including the name, status, description, used model, and instance details. If you do not have the required permission or the ID does not exist, the API returns an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/dev-servers/jobs/services/{id}

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 19-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
id	Yes	String	**Definition**: ID of the deployed service. **Constraints**: The value can contain letters, digits, and hyphens (-). **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 19-2 Response body parameters

Parameter	Type	Description
id	String	**Definition**: ID of the deployed service. **Range**: N/A.
name	String	**Definition**: Name of the deployed service. **Range**: N/A.
status	String	**Definition**: Status of the deployed instance. **Range**: **CREATING**, **RUNNING**, **FAILED**, **DELETED**, or **ERROR**.
spec	Map<String,String>	**Definition**: Feature parameter of the deployed service. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
instances	Array of **AIServiceInstance** objects	**Definition**: Instance of the deployed service.
model	**Model** object	**Definition**: Model used by the deployed service.

Table 19-3 AIServiceInstance

Parameter	Type	Description
id	String	**Definition**: ID of the deployed instance. **Range**: N/A.
status	String	**Definition**: Status of the deployed instance. **Range**: **CREATING**, **RUNNING**, **FAILED**, **DELETED**, or **ERROR**.
endpoints	String	**Definition**: Call method information. **Range**: N/A.

Table 19-4 Model

Parameter	Type	Description
name	String	**Definition**: Model name. **Range**: N/A.
url	String	**Definition**: OBS path of the model. **Range**: N/A.
quant_type	String	**Description**: Quantization data type. **Range**: **w8A8** and **fp16**

Example Requests

```
GET https://{endpoint}/v1/{project_id}/dev-servers/job/services/{id}

{ }
```

Example Responses

Status code: 200

OK

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
  "id" : "da126646-035a-4c74-a4ff-5ef77bbb2881",
  "name" : "k8s_SERVICE_DEPLOY",
  "status" : "CREATING",
  "spec" : {
    "model_name" : "DeepSeek-V3",
    "mount_path" : "/mnt/aiserver/model",
    "sfs_turbo_id" : "",
    "instance_num" : "1",
    "deploy_openwebui" : "false"
  },
  "instances" : [ {
    "id" : "da126646-0576-4a7d-8957-462bb8687e10",
    "status" : "CREATING",
    "endpoints" : "api:http://192.168.0.37:8080/v1/chat/completions,open_web_ui:http://192.168.0.37:30000"
  } ],
  "model" : {
    "name" : "DeepSeek-R1",
    "url" : "https://models-jl.obs.cn-north-7.ulanqab.huawei.com/DeepSeek-R1-w8a8-vllm-fusion",
    "quant_type" : "w8a8"
  }
}
```


Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

20 Node configuration template

20.1 Obtaining a Node Configuration Template

Function

This API is used to obtain details about a node configuration template. This API is used when you need to view a node configuration template, manage node configurations, or perform related operations. Before using this API, ensure that the node configuration template exists and you have the required permission. After this API is called, the system returns the details of the specified node configuration template, including the template name, version, configuration parameters, and description. If the node configuration template does not exist or you do not have the access permission, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/nodeconfigtemplates/{nodeconfigtemplate_name}

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 20-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
nodeconfigtemplate_name	Yes	String	**Definition**: Name of the node configuration template. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 20-2 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version. **Range**: • **v1**
kind	String	**Definition**: Resource type. **Range**: • **NodeConfigTemplate**: node configuration template
metadata	**NodeConfigTemplateMeta** object	**Definition**: Metadata of the node configuration template.
spec	**NodeConfigTemplateSpec** object	**Definition**: Specifications of the node configuration template.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 20-3 NodeConfigTemplateMeta

Parameter	Type	Description
name	String	**Definition**: Name of the node configuration template. **Range**: N/A

Table 20-4 NodeConfigTemplateSpec

Parameter	Type	Description
dockerBaseSize	Integer	**Definition**: Available disk space of a single container on a resource pool node, in GB. **Range**: N/A
dockerLvmConfig	**DockerLvmConfig** object	**Definition**: Docker data disk configuration of a resource pool node.

Table 20-5 DockerLvmConfig

Parameter	Type	Description
dockerThinPool	Integer	**Definition**: Percentage of Docker disks to data disks on nodes in a resource pool. For example, if the Docker disks take 20/ %of the data disks, the value of this parameter is **20**. **Range**: N/A
kubernetesLV	Integer	**Definition**: Percentage of Kubernetes disks to data disks on nodes in a resource pool. For example, if the Docker disks take 20/ %of the data disks, the value of this parameter is **20**. **Range**: N/A
dockerDiskType	String	**Definition**: Disk type. **Range**: • **evs**: EVS disks • **ssd**: local SSDs

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
lvType	String	**Definition**: LVM write mode. **Range**: • **striped**: striped mode in which multiple disks are used to form a strip to improve disk performance • **linear**: linear mode

Status code: 404

Table 20-6 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

None

Example Responses

Status code: 200

OK.

```
{
  "kind" : "NodeConfigTemplate",
  "apiVersion" : "v1",
  "metadata" : {
    "name" : "base.template"
  },
  "spec" : {
    "dockerBaseSize" : 50,
    "dockerLvmConfig" : {
      "dockerThinPool" : 90,
      "kubernetesLV" : 10,
      "dockerDiskType" : "evs"
    }
  }
}
```

Status code: 404

Not found.

```
{
  "error_code" : "ModelArts.50005101",
  "error_msg" : "Nodeconfigtemplate {name} not found"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	OK.
404	Not found.

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

21 Resource Pool Management

21.1 Obtaining Custom Node Configurations of a Resource Pool

Function

This API is used to obtain custom node configurations of 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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v2/{project_id}/pools/{pool_name}/node-config

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 21-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Constraints**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 21-2 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: The value is fixed at **v2**. **Range**: N/A
kind	String	The value is fixed at **NodeConfig**.
metadata	**NodeconfigMeta** object	**Definition**: Metadata of a resource pool node.
spec	**NodeconfigSpec** object	**Definition**: Specifications of a resource pool node.
status	**NodeconfigStatus** object	**Definition**: Status of a resource pool node.

Table 21-3 NodeconfigMeta

Parameter	Type	Description
name	String	The value is fixed at **node-config**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 21-4 NodeconfigSpec

Parameter	Type	Description
configs	Object	Custom node configurations, including binding cores to nodes, enabling cache clearing, and enabling transparent huge pages currently. "configs": { "cpu_manager": { "mode": "static/none" //**static** indicates to enable core binding, and **none** indicates to disable core binding. }, "drop_cache": { "mode": "enable/disable" //**enable** indicates to enable cache clearing. }, "transparent_hugepage": { "mode": "always/madvise/never" // **always** indicates to enable transparent huge pages, **never** indicates to disable transparent huge pages, and **madvice** indicates that the system determines whether to enable this function. } }

Table 21-5 NodeconfigStatus

Parameter	Type	Description
phase	String	Plugin instance status. Options: • **Pending**: The plugin is being installed. • **Running**: All of the plugin instances are running. This specifies that the plugin runs properly. • **Updating**: The plugin is being updated. • **Abnormal**: The plugin instances are abnormal and the plugin cannot be used. You can click the status to view the failure cause. • **Deleting**: The plugin is being deleted.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status code: 400

Table 21-6 Response header parameters

Parameter	Type	Description
X-request-id	String	This field is the request ID number for task tracking. Format is request_uuid-timestamp-hostname.

Table 21-7 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
200	**Range**: N/A
400	Error response

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

22 Node Management

22.1 Batch Updating Nodes

Function

This API is used to modify the configuration or attributes of multiple nodes at the same time. Each node can execute the update process independently during batch operations. Use this API when you need to upgrade node software versions, manage resource tags, adjust resource allocation policies, apply security fixes, or synchronize configuration changes. To use it, ensure the target nodes exist, have administrator rights, and are operational (not locked or under maintenance). Provide a valid node list and update parameters like configurations or version numbers. After the update, nodes adopt the new settings and become available, replacing old configurations. If issues arise, like missing nodes, insufficient permissions, incorrect node states (like under maintenance), invalid parameters, or incomplete data, the system returns errors such as 404 node not found, 403 permission denied, or 400 parameter validation failed.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v2/{project_id}/pools/{pool_name}/nodes/batch-update

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 22-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A. **Default Value**: N/A.
pool_name	Yes	String	**Definition**: Resource pool ID. The value is the **metadata.name** field in the resource pool details. **Constraints**: N/A. **Range**: N/A. **Default Value**: N/A.

Request Parameters

Table 22-2 Request body parameters

Parameter	Mandatory	Type	Description
nodeNames	Yes	Array of strings	**Definition**: List of nodes to be updated. **Constraints**: N/A.
action	Yes	String	**Definition**: Node update type. **Constraints**: N/A. **Range**: • **openHaRedundant**: Enable HA redundancy. • **closeHaRedundant**: Disable HA redundancy. • **createTags**: Batch add node resource tags. • **deleteTags**: Batch delete node resource tags. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
haRedundantEnable	No	Boolean	**Definition**: HA redundancy tag. If the value is **true**, HA redundancy is enabled for the node. **Constraints**: N/A. **Range**: N/A. **Default Value**: N/A.
haRedundantEffect	No	String	**Definition**: HA redundancy tag effect. **Constraints**: N/A. **Range**: • **NoSchedule**: No scheduling is allowed. • **NoExecute**: No execution is allowed. **Default Value**: N/A.
driver	No	**NodeDriver** object	**Definition**: Driver version and status of a node. **Constraints**: N/A.
tags	No	Array of **NodeTag** objects	**Definition**: List of resource tags to be operated in batches. **Constraints**: N/A.

Table 22-3 NodeDriver

Parameter	Mandatory	Type	Description
version	No	String	**Definition**: Driver version on the node. **Constraints**: N/A. **Range**: N/A. **Default Value**: N/A.
updateStrategy	No	String	**Definition**: Node driver upgrade policy. **Constraints**: N/A. **Range**: N/A. **Default Value**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 22-4 NodeTag

Parameter	Mandatory	Type	Description
key	Yes	String	**Definition**: Tag key. It can contain letters, digits, spaces, and special characters (_.:=+-@), but cannot start or end with a space or start with ***sys***. **Constraints**: N/A. **Range**: N/A. **Default Value**: N/A.
value	Yes	String	**Definition**: Tag value. Can contain letters, digits, spaces, and special characters _.:=+-@ but cannot start or end with a space. **Constraints**: N/A. **Range**: N/A. **Default Value**: N/A.

Response Parameters

Status code: 200

Table 22-5 Response body parameters

Parameter	Type	Description
successNodeNames	Array of strings	**Definition**: List of nodes that are successfully updated.
failNodeNames	Array of strings	**Definition**: List of nodes that fail to be updated.

Status code: 404

Table 22-6 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

Enable node HA redundancy.

```
POST /v2/{project_id}/pools/{pool_name}/nodes/batch-update

{
  "nodeNames" : [ "os-node-created-xzz78" ],
  "action" : "openHaRedundant"
}
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "successNodeNames" : [ {
    "name" : "os-node-created-xzz78",
    "status" : "success"
  } ]
}
```

Status code: 404

Not found.

```
{
  "error_code" : "ModelArts.50015001",
  "error_msg" : "pool not found"
}
```

Status Codes

Status Code	Description
200	Request succeeded.
404	Not found.

Error Codes

See **Error Codes**.

22.2 Locking Node Functions in Batches

Function

This API is used to lock node functions in batches. The locked functions cannot be used on the console. This API is used when you need to temporarily disable functions of some nodes to prevent misoperations, or perform system maintenance or tests. You can use this API to lock node functions in batches. Before using this API, ensure that the node function exists and you have the administrator permissions. After the lock operation is complete, the functions of the specified node are disabled on the console, and related operations cannot be

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

performed. If the node function does not exist, you do not have the permission to perform the operation, or the request parameters are invalid, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v2/{project_id}/pools/{pool_name}/nodes/batch-lock

Table 22-7 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Definition**: Resource pool ID. The value is the **metadata.name** field in the resource pool details. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 22-8 Request body parameters

Parameter	Mandatory	Type	Description
nodeNames	Yes	Array of strings	**Definition**: Names of nodes whose lock status needs to be changed. **Constraints**: N/A
actions	Yes	Array of strings	**Definition**: Function type to be changed. **Constraints**: N/A

Response Parameters

Status code: 200

Table 22-9 Response body parameters

Parameter	Type	Description
nodes	Array of **NodesResultMsg** objects	**Definition**: IDs and statuses of resource pool nodes that are operated in batches. **Range**: N/A

Table 22-10 NodesResultMsg

Parameter	Type	Description
name	String	*Definition**: ID of the unlocked resource pool node. The value is the same as that of **metadata.name** in the node details. **Range**: N/A
status	String	**Definition**: Batch operation result of resource pool nodes. **Range**: • **failed**: The operation failed. • **success**: The operation succeeded.

Status code: 404

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 22-11 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

Lock node functions in batches.

```
POST /v2/{project_id}/pools/{pool_name}/nodes/batch-lock

{
  "nodeNames" : [ "os-node-created-xzz78" ],
  "actions" : [ "delete" ]
}
```

Example Responses

Status code: 200

OK

```
{
  "nodes" : [ {
    "name" : "os-node-created-xzz78",
    "status" : "success"
  } ]
}
```

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

22.3 Unlocking Node Functions in Batches

Function

This API is used to unlock functions of a specified node in batches. After the unlocking, the functions become available on the console. This API is used when you need to unlock the locked functions in batches after the system maintenance or test. Before using this API, ensure that the node function has been locked and the user has the administrator permission. After the unlocking, the functions of the specified node become available on the console, and the user can use the functions. If the node function is not locked, the user does not have the permission to perform the operation, or the request parameters are invalid, the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v2/{project_id}/pools/{pool_name}/nodes/batch-unlock

Table 22-12 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
pool_name	Yes	String	**Definition**: Resource pool ID. The value is the **metadata.name** field in the resource pool details. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

Table 22-13 Request body parameters

Parameter	Mandatory	Type	Description
nodeNames	Yes	Array of strings	**Definition**: Names of nodes whose lock status needs to be changed. **Constraints**: N/A
actions	Yes	Array of strings	**Definition**: Function type to be changed. **Constraints**: N/A

Response Parameters

Status code: 200

Table 22-14 Response body parameters

Parameter	Type	Description
nodes	Array of **NodesResultMsg** objects	**Definition**: IDs and statuses of resource pool nodes that are operated in batches. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 22-15 NodesResultMsg

Parameter	Type	Description
name	String	*Definition**: ID of the unlocked resource pool node. The value is the same as that of **metadata.name** in the node details. **Range**: N/A
status	String	**Definition**: Batch operation result of resource pool nodes. **Range**: • **failed**: The operation failed. • **success**: The operation succeeded.

Status code: 404

Table 22-16 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

Unlock node functions in batches.

```
POST /v2/{project_id}/pools/{pool_name}/nodes/batch-unlock

{
  "nodeNames" : [ "os-node-created-xzz78" ],
  "actions" : [ "delete" ]
}
```

Example Responses

Status code: 200

OK

```
{
  "nodes" : [ {
    "name" : "os-node-created-xzz78",
    "status" : "success"
  } ]
}
```

Status code: 404

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

22.4 Resetting Nodes

Function

This API is used to reset a node to the initial state and clear data and configurations on the node. This API is used when you need to reset a node to the factory or initial state when the node is faulty, the configuration is incorrect, the node needs to be redeployed, or the system needs to be restored. Before using this API, ensure that the node exists and the user has the administrator permission. After the reset, all data and configurations on the node are cleared, and the node is restarted and restored to the initial state. If the node does not exist, you do not have the permission to perform operations on the node, or the node cannot be reset (for example, a task is running), the API will return an error message.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v2/{project_id}/pools/{pool_name}/nodes/batch-reset

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 22-17 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Definition**: Resource pool ID. The value is the **metadata.name** field in the resource pool details. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

Table 22-18 Request body parameters

Parameter	Mandatory	Type	Description
nodeNames	Yes	Array of strings	**Definition**: List of names of nodes to be reset. **Constraints**: N/A
rollingConfig	Yes	**rollingConfig** object	**Definition**: Node reset is a rolling configuration. **Constraints**: N/A
nodeConfig	Yes	Object	**Definition**: Node configuration parameters. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 22-19 rollingConfig

Parameter	Mandatory	Type	Description
strategy	Yes	String	**Definition**: Rolling policy. **Constraints**: N/A **Range**: • **RollingByNumber**: Indicates the number of nodes that can be reset at the same time. For example, if this parameter is set to **10**, a maximum of 10 nodes can be reset at a time. • **RollingByPercent**: Indicates the maximum percentage of nodes that can be reset at the same time. For example, if this parameter is set to **10**, a maximum of 10/ %nodes can be reset at a time. **Default Value**: N/A
maxUnavailable	Yes	Integer	**Definition**: Number or percentage of nodes to be reset in rolling mode. If **strategy** is set to **RollingByNumber**, this parameter indicates the number of nodes that can be reset at the same time. If **strategy** is set to **RollingByPercent**, this parameter indicates the maximum percentage of nodes that can be reset at the same time. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 22-20 Response body parameters

Parameter	Type	Description
job_id	String	**Definition**: ID of an asynchronous task. **Range**: N/A

Status code: 404

Table 22-21 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

```
POST /v2/{project_id}/pools/{pool_name}/nodes/batch-reset

{
  "nodeNames" : [ "os-node-created-lv29s" ],
  "rollingConfig" : {
    "strategy" : "RollingByPercent",
    "maxUnavailable" : 25
  },
  "nodeConfig" : {
    "imageId" : "3f2ee6e8-b19b-4683-8c9d-c10b197d51d6",
    "imageType" : "private"
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "job_id" : "f234a869-f8ee-4b51-8255-3cbede368aba"
}
```

Status code: 404

Not found

```
{
  "error_code" : "ModelArts.50015001",
  "error_msg" : "pool not found"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	OK
404	Not found

Error Codes

See **Error Codes**.

22.5 Changing the Node Specifications

Function

This API is used to adjust the specifications (such as step) of a specified node. For example, you can expand the node from 8-node supernode to 16-node supernode. This API is used when you need to adjust the resource capacity of a node, optimize resource utilization, or upgrade the system based on service requirements. Before using this API, ensure that the node has been created and can be modified, the target specifications are supported, and the user has the administrator permissions. After the specifications are changed, the resource capacity of the node is adjusted as required, and related services and configurations are reloaded to adapt to the new specifications. If the node does not exist, the node cannot be modified, the target specifications are not supported, or the user does not have the permission to perform the operation, an error message will be returned.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v2/{project_id}/pools/{pool_name}/nodes/batch-resize

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 22-22 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	**Definition**: Resource pool ID. The value is the **metadata.name** field in the resource pool details. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

Table 22-23 Request body parameters

Parameter	Mandatory	Type	Description
nodes	Yes	Array of **ResizeNodeInfo** objects	**Definition**: Information about the batch of supernodes to be scaled. **Constraints**: A maximum of 50 supernodes can be scaled at a time.
source	Yes	**NodeResizeParams** object	**Definition**: Source node pool and specifications information of the supernode to be changed. **Constraints**: N/A
target	Yes	**NodeResizeParams** object	**Definition**: Target node pool and specifications information of the supernode to be changed. **Constraints**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 22-24 ResizeNodeInfo

Parameter	Mandatory	Type	Description
batchUID	No	String	**Definition**: Node batch ID, which is required for batch change and can be obtained from the **os.modelarts.node/batch.uid** tag of the node. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
deleteNodeNames	No	Array of strings	**Definition**: List of nodes to be scaled in a batch scale-in scenario. **Constraints**: N/A

Table 22-25 NodeResizeParams

Parameter	Mandatory	Type	Description
nodePool	No	String	**Definition**: Node pool. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
flavor	No	String	**Definition**: Flavor. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
creatingStep	No	Object	**Definition**: Step. **Constraints**: N/A

Response Parameters

Status code: 200

OK

Status code: 404

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 22-26 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

Increasing the number of nodes from 8 to 10 in a supernode batch **e7d2ad87-f082-445e-ade0-e493147a1570**

```
/v2/{project_id}/pools/{pool_name}/nodes/scale-hyperinstance-batch

{
  "nodes" : [ {
    "batchUID" : "e7d2ad87-f082-445e-ade0-e493147a1570"
  } ],
  "source" : {
    "nodePool" : "np01",
    "flavor" : "modelarts.bm.npu.arm.snt9c",
    "creatingStep" : {
      "type" : "hyperinstance",
      "step" : 8
    }
  },
  "target" : {
    "nodePool" : "np02",
    "flavor" : "modelarts.bm.npu.arm.snt9c",
    "creatingStep" : {
      "type" : "hyperinstance",
      "step" : 10
    }
  }
}
```

Example Responses

Status code: 200

OK

```
{ }
```

Status code: 404

Not found

```
{
  "error_code" : "ModelArts.50015001",
  "error_msg" : "pool not found"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	OK
404	Not found

Error Codes

See **Error Codes**.

22.6 Migrating Nodes in Batches

Function

This API is used to batch migrate nodes between resource pools. Nodes are migrated from one resource pool to another. Use this API when nodes in a resource pool are unevenly distributed, during cluster maintenance, or for service expansion. It allows you to move specific nodes between resource pools. Make sure the resource pool has at least two nodes and enough resources like IP addresses before migrating them with this API. The API returns an error if the resource pool has only one node, lacks sufficient cluster resources, the node cannot migrate, or you lack operation permissions.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v2/{project_id}/pools/{pool_name}/nodes/batch-migrate

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 22-27 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
pool_name	Yes	String	Resource pool name. The value is the same as the **metadata.name** value of the resource pool.

Request Parameters

Table 22-28 Request body parameters

Parameter	Mandatory	Type	Description
migrateNodeNames	No	Array of strings	Names of the nodes to be migrated.
fromClusterName	Yes	String	Name of the source cluster.
toClusterName	Yes	String	Name of the destination cluster.
toPoolName	No	String	Name of the target resource pool.
resourceSpec	No	**MigrateResourceSpec** object	Configurations of the node to be migrated in the target resource pool. This parameter is mandatory when a node is migrated across resource pools.

Table 22-29 MigrateResourceSpec

Parameter	Mandatory	Type	Description
flavor	Yes	String	Resource flavor name. This parameter is mandatory for cross-resource-pool migration.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
creatingStep	No	**CreatingStep** object	Resource step information. When the entire cabinet or supernode is migrated, the step information needs to be specified.
nodePool	No	String	Name of the target node pool to which resources are migrated.
rootVolume	No	**RootVolume** object	System disk information of the target node pool. This parameter is valid only when a node pool is created.
dataVolumes	No	Array of **DataVolumeItem** objects	Data disk information of the target node pool. This parameter is valid only when a node pool is created.
volumeGroupConfigs	No	Array of **VolumeGroupConfig** objects	Advanced disk configurations. This parameter is mandatory when a custom data disk exists. This parameter is valid when a node pool is created.
labels	No	Map<String,String>	Kubernetes label, in the format of a key-value pair. This parameter cannot be specified for a non-privileged pool. This parameter is valid when a node pool is created.
taints	No	Array of **Taints** objects	Taints to be added to nodes to set anti-affinity. This parameter cannot be specified for a non-privileged pool. This parameter is valid when a node pool is created.
tags	No	Array of **UserTags** objects	Resource tag. This parameter is valid when a node pool is created.
network	No	**NodeNetwork** object	Network configuration. This parameter cannot be specified for a non-privileged pool. This parameter is valid when a node pool is created.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
extendParams	No	ResourceExtendParams object	Custom configuration, for example, setting **dockerSize** for the node. This parameter is valid when a node pool is created.

Table 22-30 CreatingStep

Parameter	Mandatory	Type	Description
step	No	Integer	**Definition**: Step of a supernode. **Constraints**: N/A **Range**: Only the step contained in the resource specification details is supported. **Default Value**: N/A
type	No	String	**Definition**: Batch creation type. **Constraints**: N/A **Range**: • **hyperinstance**: supernode **Default Value**: N/A

Table 22-31 RootVolume

Parameter	Mandatory	Type	Description
volumeType	Yes	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk
size	Yes	String	**Definition**: Disk size, in GiB. **Range**: N/A.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 22-32 DataVolumeItem

Parameter	Mandatory	Type	Description
volumeType	Yes	String	**Definition**: Disk type.. **Range**: • **SSD**: Ultra-high I/O disk • **GPSSD**: General-purpose SSD • **SAS**: High I/O disk
size	Yes	String	**Definition**: Disk size, in GiB. **Range**: N/A.
count	No	Integer	**Definition**: Number of disks. **Range**: N/A.
extendParams	Yes	**VolumeExtendParams** object	**Definition**: Custom disk configuration.

Table 22-33 VolumeExtendParams

Parameter	Mandatory	Type	Description
volumeGroup	Yes	String	**Definition**: Name of a disk group, which is used to divide storage space. **Range**: • **vgpaas**: container disk. • **default**: common data disk, which is mounted in default mode. • **vguser**: common data disk, which is mounted to a specified path. The group name varies depending on the path, for example, **vguser1** and **vguser2**. • **vg-everest-localvolume-persistent**: common data disk, which is used as the persistent storage volume. • **vg-everest-localvolume-ephemeral**: common data disk, which is used as a temporary storage volume.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 22-34 VolumeGroupConfig

Parameter	Mandatory	Type	Description
volumeGroup	Yes	String	**Definition**: Disk group name. Index of the volume group in the dataVolumes. **Range**: N/A.
dockerThinPool	No	Integer	**Definition**: Percentage of data disks designated as container disks. This parameter can be specified only when **volumeGroup** is **vgpaas** (container disk). **Range**: N/A.
lvmConfig	No	**LvmConfig** object	**Definition**: LVM configuration management.
types	No	Array of strings	**Definition**: Storage type. Options: • **volume**: Cloud hard disk. When **dataVolumes** is specified, the default value is used. • **local**: Local disk. This parameter must be specified when a local disk is used.

Table 22-35 LvmConfig

Parameter	Mandatory	Type	Description
lvType	Yes	String	**Definition**: LVM write mode. **Range**: • **linear**: Linear mode. • **striped**: Striped mode in which multiple disks are used to form a strip to improve disk performance.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
path	No	String	**Definition**: Disk mount path. This parameter takes effect only in user configuration. The value is an absolute path. Digits, letters, periods (.), hyphens (-), and underscores (_) are allowed. **Range**: N/A.

Table 22-36 Taints

Parameter	Mandatory	Type	Description
key	Yes	String	**Definition**: Key. **Range**: N/A
value	No	String	Value.
effect	Yes	String	Effect.

Table 22-37 UserTags

Parameter	Mandatory	Type	Description
key	Yes	String	**Definition**: Key. The value cannot start with **CCE-** or **__type_baremetal**. **Range**: N/A
value	Yes	String	Value.

Table 22-38 NodeNetwork

Parameter	Mandatory	Type	Description
vpc	No	String	• **Definition**: VPC ID. **Range**: N/A.
subnet	No	String	**Definition**: Subnet ID. **Range**: N/A.
securityGroups	No	Array of strings	**Definition**: Security group ID set.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 22-39 ResourceExtendParams

Parameter	Mandatory	Type	Description
dockerBaseSize	No	String	**Definition**: Container image space of a node. **Range**: • **Specified**: The default value of dockerBaseSize ranges from **50** to **500**. However, the actual value is restricted by the container data disk size of the node. • **Unlimited**: *dockerBaseSize="0, indicating that the container image space is not limited.
postInstall	No	String	**Definition**: Post-installation script. The entered value must be encoded using Base64. **Range**: N/A.
runtime	No	String	**Definition**: Container runtime. **Range**: • **docker**: Container runtime. It is the most commonly used container engine, which is used to create and manage container instances based on container images. • **containerd**: Industrial-grade container runtime. It focuses on container lifecycle management and is one of the core components at the bottom layer of Docker. It can also be deployed independently.
labelPolicyOnExistingNodes	No	String	**Definition**: Kubernetes label update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
taintPolicyOnExistingNodes	No	String	**Definition**: Kubernetes taint update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
tagPolicyOnExistingNodes	No	String	**Definition**: Resource tag update policy of existing nodes. If the value is empty, the existing nodes are updated by default. **Range**: • **refresh**: Update. • **ignore**: Do not update.
XParameterPlaneSubnet	No	String	**Definition**: Subnet ID used for data transmission on the parameter plane between physical clusters. The value cannot be the same as the node subnet or container subnet. **Range**: N/A.
nodePoolName	No	String	**Definition**: Name of the node pool specified by you. The value is a string of 2 to 50 characters, consisting of lowercase letters, hyphens (-), and digits. It must start with a lowercase letter and cannot end with a hyphen (-) or **-default**. **Range**: N/A.

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 22-40 Response body parameters

Parameter	Type	Description
job_id	String	**Definition**: ID of an asynchronous task. **Range**: N/A

Status code: 404

Table 22-41 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

```
POST /v2/{project_id}/pools/{pool_name}/nodes/batch-migrate

{
  "migrateNodeNames" : [ "os-node-created-zrxm7" ],
  "fromClusterName" : "lite-cluster-1dc682c4-e04d-11ee-bda6-0255ac1001ba",
  "toClusterName" : "lite-cluster-d3a65087-38e4-11ef-a12c-0255ac100b03",
  "toPoolName" : "pool-9d3f-6f5da086876d4cd084d36f8bd3346036",
  "resourceSpec" : {
    "flavor" : "modelarts.vm.2u4g"
  }
}
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "job_id" : "66798666-6778-443f-9f8a-56c9ea6d719c"
}
```

Status code: 404

Not found.

```
{
  "error_code" : "ModelArts.50015001",
  "error_msg" : "pool not found"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	Request succeeded.
404	Not found.

Error Codes

See **Error Codes**.

22.7 Binding Nodes to a Logical Subpool in Batches

Function

This API is used to bind nodes in a logical subpool to another logical subpool when node binding is enabled for a physical dedicated pool.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v2/{project_id}/pools/{pool_name}/nodes/batch-bind

Table 22-42 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
pool_name	Yes	String	Resource pool ID. The value is the **metadata.name** field in the resource pool details.

Request Parameters

Table 22-43 Request body parameters

Parameter	Mandatory	Type	Description
nodes	Yes	Array of **BindNodeItem** objects	List of nodes to be bound with another pool.
drain	No	Boolean	Specifies whether to drain the node to be bound with another pool. **true**: The node will be drained.

Table 22-44 BindNodeItem

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the node to be bound with another pool.
quotaName	No	String	ID of the logical subpool bound to the node. If the value is empty, the node is not bound to any logical subpool.

Response Parameters

Status code: 200

Request succeeded.

Status code: 404

Table 22-45 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
error_msg	String	**Definition**: Error message. **Range**: N/A

Example Requests

Bind nodes to logical subpool pool-a26d-prjid.

```
POST /v2/{project_id}/pools/{pool_name}/nodes/batch-bind

{
  "nodes" : [ {
    "name" : "os-node-created-8888g",
    "quotaname" : "pool-a26d-prjid"
  } ]
}
```

Example Responses

Status code: 200

Request succeeded.

```
{ }
```

Status code: 404

Not found.

```
{
  "error_code" : "ModelArts.50015001",
  "error_msg" : "pool not found"
}
```

Status Codes

Status Code	Description
200	Request succeeded.
404	Not found.

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

23 Plugin Template Management

23.1 Query Plugin Templates

Function

This API is used to obtain plugin templates.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v2/{project_id}/plugintemplates

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 23-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Table 23-2 Query Parameters

Parameter	Mandatory	Type	Description
templateName	No	String	**Definition**: Plug-in name. If this parameter is set, the plug-in with the specified name is queried. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
poolName	No	String	**Definition**: Resource pool name. If this parameter is set, the list of plug-ins that meet the resource pool's installation requirements is queried. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 23-3 Response body parameters

Parameter	Type	Description
apiVersion	String	**Definition**: API version. **Range**: • **v1**
kind	String	API type. Options: • **PluginTemplateList**: plugin template list
items	Array of **PluginTemplateV2** objects	List of plugin templates.

Table 23-4 PluginTemplateV2

Parameter	Type	Description
apiVersion	String	**Definition**: API version. **Range**: • **v2**
kind	String	Resource type. Options: • **PluginTemplate**: plugin template
metadata	**PluginTemplateMetadata** object	Plugin template metadata.
spec	**PluginTemplateSpecV2** object	Detailed information about the plugin template, for example, the version list.

Table 23-5 PluginTemplateMetadata

Parameter	Type	Description
name	String	**Definition**: Name of the plugin template. **Range**: N/A
annotations	Map<String,String>	Plugin template annotations in the format of key-value pairs.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 23-6 PluginTemplateSpecV2

Parameter	Type	Description
optional	Boolean	Controls whether the plugin is mandatory.
type	String	Plugin template type. Options: • **helm**: Helm type • **ccePlugin**: CCE type
logoURL	String	**Definition**: URL of the logo image. **Range**: N/A
description	String	Plugin template description.
versions	Array of **PluginTemplateVersionV2** objects	Details about the plugin template version.

Table 23-7 PluginTemplateVersionV2

Parameter	Type	Description
version	String	Version number of the plugin template.
creationTimestamp	String	Creation time.
inputs	Object	Plugin installation parameters.
translate	Object	Translation information used by the GUI.
description	String	Version description.
detail	String	Version description.

Status code: 404

Table 23-8 Response body parameters

Parameter	Type	Description
error_code	String	• **Definition**: ModelArts error code. **Range**: N/A
error_msg	String	**Definition**: Error message. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Example Requests

Query details about node-local-dns plugin templates.

```
GET /v2/{projectId}/plugintemplates?templateName=node-local-dns
```


```
{
  "kind" : "PluginTemplateList",
  "apiVersion" : "v2",
  "items" : [ {
    "kind" : "PluginTemplate",
    "apiVersion" : "v2",
    "metadata" : {
      "name" : "node-local-dns",
      "annotations" : {
        "os.modelarts.plugin/release.name" : "NodeLocal DNSCache"
      }
    },
    "spec" : {
      "optional" : true,
      "versions" : [ {
        "version" : "1.6.63",
        "description" : "NodeLocal DNSCache improves Cluster DNS performance by running a dns caching
agent on cluster nodes as a DaemonSet.",
        "creationTimestamp" : "2023-05-20T08:50:31Z",
        "inputs" : {
          "parameters" : {
            "custom" : {
              "annotations" : { },
              "enable_dnsconfig_admission" : true,
              "enable_namespace_admission" : true,
              "image" : {
                "args" : {
                  "healthPort" : 8080,
                  "interfaceName" : "nodelocaldns",
                  "setupIptables" : false,
                  "skipTeardown" : true,
                  "skipteardown" : true,
                  "syncInterval" : "1ns",
                  "upstreamSvc" : "coredns"
                },
                "name" : "node-cache",
                "pullPolicy" : "Always"
              },
              "multiAZBalance" : false,
              "multiAZEnabled" : false,
              "nameserver" : "",
              "ndots" : "5",
              "node_match_expressions" : [ ],
              "search" : "",
              "tolerations" : [ {
                "effect" : "NoExecute",
                "key" : "node.kubernetes.io/not-ready",
                "operator" : "Exists",
                "tolerationSeconds" : 60
              }, {
                "effect" : "NoExecute",
                "key" : "node.kubernetes.io/unreachable",
                "operator" : "Exists",
                "tolerationSeconds" : 60
              } ],
              "zones" : [ {
                "plugins" : {
                  "cache" : {
                    "denial" : { },
                    "parameters" : 30,
                    "prefetch" : { },
                    "server_stale" : false,
                    "success" : { }
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
      },
      "debug" : false,
      "errors" : true,
      "forward" : {
        "expire" : "",
        "force_tcp" : false,
        "health_check" : "",
        "max_fails" : "",
        "parameters" : "__PILLAR__UPSTREAM__SERVERS__",
        "policy" : "",
        "prefer_udp" : false
      },
      "log" : {
        "classes" : "all",
        "format" : "combined"
      },
      "prometheus" : true,
      "reload" : true
    },
    "zone" : ".:53"
  }, {
    "plugins" : {
      "cache" : {
        "parameters" : 30
      },
      "debug" : false,
      "errors" : true,
      "forward" : {
        "force_tcp" : true,
        "parameters" : "__PILLAR__CLUSTER__DNS__"
      },
      "log" : {
        "classes" : "all",
        "format" : "combined"
      },
      "prometheus" : true,
      "reload" : true
    },
    "zone" : "ip6.arpa:53"
  }, {
    "plugins" : {
      "cache" : {
        "parameters" : 30
      },
      "debug" : false,
      "errors" : true,
      "forward" : {
        "force_tcp" : true,
        "parameters" : "__PILLAR__CLUSTER__DNS__"
      },
      "log" : {
        "classes" : "all",
        "format" : "combined"
      },
      "prometheus" : true,
      "reload" : true
    },
    "zone" : "in-addr.arpa:53"
  }, {
    "plugins" : {
      "cache" : {
        "denial" : {
          "size" : 9984,
          "ttl" : 5
        },
        "parameters" : 30,
        "prefetch" : { },
        "success" : {
          "size" : 9984,
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
            "ttl" : 30
          }
        },
        "debug" : false,
        "errors" : true,
        "forward" : {
          "force_tcp" : true,
          "parameters" : "__PILLAR__CLUSTER__DNS__"
        },
        "health" : {
          "port" : 8080
        },
        "log" : {
          "classes" : "all",
          "format" : "combined"
        },
        "prometheus" : true,
        "reload" : true
      },
      "zone" : "cluster.local:53"
    } ]
  },
  "flavor1" : {
    "description" : "High available",
    "is_default" : true,
    "name" : "HA",
    "replicas" : 2,
    "resources" : [ {
      "limitsCpu" : "250m",
      "limitsMem" : "512Mi",
      "name" : "node-local-dns-admission-controller",
      "replicas" : 2,
      "requestsCpu" : "250m",
      "requestsMem" : "512Mi"
    }, {
      "limitsCpu" : "500m",
      "limitsMem" : "512Mi",
      "name" : "node-local-dns-cache",
      "requestsCpu" : "25m",
      "requestsMem" : "5Mi"
    } ],
    "size" : "large"
  },
  "flavor2" : {
    "description" : "Has only one instance",
    "name" : "Single",
    "replicas" : 1,
    "resources" : [ {
      "limitsCpu" : "250m",
      "limitsMem" : "512Mi",
      "name" : "node-local-dns-admission-controller",
      "replicas" : 1,
      "requestsCpu" : "250m",
      "requestsMem" : "512Mi"
    }, {
      "limitsCpu" : "500m",
      "limitsMem" : "512Mi",
      "name" : "node-local-dns-cache",
      "requestsCpu" : "25m",
      "requestsMem" : "5Mi"
    } ],
    "size" : "small"
  },
  "flavor3" : {
    "description" : "custom resources",
    "name" : "custom-resources",
    "replicas" : 2,
    "resources" : [ {
      "limitsCpu" : "250m",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
              "limitsMem" : "512Mi",
              "name" : "node-local-dns-admission-controller",
              "replicas" : 2,
              "requestsCpu" : "250m",
              "requestsMem" : "512Mi"
            }, {
              "limitsCpu" : "500m",
              "limitsMem" : "512Mi",
              "name" : "node-local-dns-cache",
              "requestsCpu" : "25m",
              "requestsMem" : "5Mi"
            } ],
            "size" : "custom"
          }
        }
      },
      "translate" : {
        "zh_CN" : {
          "description" : {
            "Parameters" : {
              "flavor1" : {
                "description" : "Dual pods for the automatic DNSConfig injection controller increase the plug-in
reliability.",
                "name" : "High availability"
              },
              "flavor2" : {
                "description" : "A single pod for the automatic DNSConfig injection controller consumes fewer
resources.",
                "name" : "Single instance"
              },
              "flavor3" : {
                "description" : "Custom resource specifications for deployment.",
                "name" : "Custom specifications."
              }
            },
            "Parameters.flavor1.description" : "Dual pods for the automatic DNSConfig injection controller
increase the plug-in reliability.",
            "Parameters.flavor1.name" : "High availability",
            "Parameters.flavor2.description" : "A single pod for the automatic DNSConfig injection controller
consumes fewer resources.",
            "Parameters.flavor2.name" : "Single instance",
            "Parameters.flavor3.description" : "Custom resource specifications for deployment.",
            "Parameters.flavor3.name" : "Custom specifications."
          },
          "key" : null,
          "plugintemplate" : {
            "changeLog" : "Kubernetes v1.31 is supported. The admission-controller logs have been updated
to stdout logs. node-local-dns supports custom health check ports.",
            "components" : {
              "node-local-dns-admission-controller" : {
                "description" : "Automatically adds DNSConfig to pods. The node-local-dNS-cache address is
injected into the container's **/etc/resolv.conf** file. The container service then uses the local cache for DNS
domain name resolution.",
                "kind" : "Deployment"
              },
              "node-local-dns-cache" : {
                "description" : "Deploys a DNS cache proxy on each cluster node to boost DNS performance.",
                "kind" : "DaemonSet"
              }
            },
            "description" : "A DaemonSet that runs on cluster nodes and improves cluster DNS performance
using DNS cache proxies"
          }
        }
      }
    } ],
    "logoURL" : "https://obs.com/plugintemplates/node-local-dnslogo.svg"
  }
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
 } ]
}
```

Example Responses

Status code: 200

Request succeeded.

```
{
  "kind" : "PluginTemplateList",
  "apiVersion" : "v2",
  "items" : [ {
    "kind" : "PluginTemplate",
    "apiVersion" : "v2",
    "metadata" : {
      "name" : "node-local-dns",
      "annotations" : {
        "os.modelarts.plugin/release.name" : "NodeLocal DNSCache"
      }
    },
    "spec" : {
      "optional" : true,
      "versions" : [ {
        "version" : "1.6.63",
        "description" : "NodeLocal DNSCache improves Cluster DNS performance by running a dns caching
agent on cluster nodes as a DaemonSet.",
        "creationtimestamp" : "2023-05-20T08:50:31Z",
        "inputs" : {
          "parameters" : {
            "custom" : {
              "annotations" : { },
              "enable_dnsconfig_admission" : true,
              "enable_namespace_admission" : true,
              "image" : {
                "args" : {
                  "healthPort" : 8080,
                  "interfaceName" : "nodelocaldns",
                  "setupIptables" : false,
                  "skipTeardown" : true,
                  "skipteardown" : true,
                  "syncInterval" : "1ns",
                  "upstreamSvc" : "coredns"
                },
                "name" : "node-cache",
                "pullPolicy" : "Always"
              },
              "multiAZBalance" : false,
              "multiAZEnabled" : false,
              "nameserver" : "",
              "ndots" : "5",
              "node_match_expressions" : [ ],
              "search" : "",
              "tolerations" : [ {
                "effect" : "NoExecute",
                "key" : "node.kubernetes.io/not-ready",
                "operator" : "Exists",
                "tolerationSeconds" : 60
              }, {
                "effect" : "NoExecute",
                "key" : "node.kubernetes.io/unreachable",
                "operator" : "Exists",
                "tolerationSeconds" : 60
              } ],
              "zones" : [ {
                "plugins" : {
                  "cache" : {
                    "denial" : { },
                    "parameters" : 30,
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
      "prefetch" : { },
      "server_stale" : false,
      "success" : { }
    },
    "debug" : false,
    "errors" : true,
    "forward" : {
      "expire" : "",
      "force_tcp" : false,
      "health_check" : "",
      "max_fails" : "",
      "parameters" : "__PILLAR__UPSTREAM__SERVERS__",
      "policy" : "",
      "prefer_udp" : false
    },
    "log" : {
      "classes" : "all",
      "format" : "combined"
    },
    "prometheus" : true,
    "reload" : true
  },
  "zone" : ".:53"
}, {
  "plugins" : {
    "cache" : {
      "parameters" : 30
    },
    "debug" : false,
    "errors" : true,
    "forward" : {
      "force_tcp" : true,
      "parameters" : "__PILLAR__CLUSTER__DNS__"
    },
    "log" : {
      "classes" : "all",
      "format" : "combined"
    },
    "prometheus" : true,
    "reload" : true
  },
  "zone" : "ip6.arpa:53"
}, {
  "plugins" : {
    "cache" : {
      "parameters" : 30
    },
    "debug" : false,
    "errors" : true,
    "forward" : {
      "force_tcp" : true,
      "parameters" : "__PILLAR__CLUSTER__DNS__"
    },
    "log" : {
      "classes" : "all",
      "format" : "combined"
    },
    "prometheus" : true,
    "reload" : true
  },
  "zone" : "in-addr.arpa:53"
}, {
  "plugins" : {
    "cache" : {
      "denial" : {
        "size" : 9984,
        "ttl" : 5
      },
      "parameters" : 30,
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
          "prefetch" : { },
          "success" : {
            "size" : 9984,
            "ttl" : 30
          }
        },
        "debug" : false,
        "errors" : true,
        "forward" : {
          "force_tcp" : true,
          "parameters" : "__PILLAR__CLUSTER__DNS__"
        },
        "health" : {
          "port" : 8080
        },
        "log" : {
          "classes" : "all",
          "format" : "combined"
        },
        "prometheus" : true,
        "reload" : true
      },
      "zone" : "cluster.local:53"
    } ]
  },
  "flavor1" : {
    "description" : "High available",
    "is_default" : true,
    "name" : "HA",
    "replicas" : 2,
    "resources" : [ {
      "limitsCpu" : "250m",
      "limitsMem" : "512Mi",
      "name" : "node-local-dns-admission-controller",
      "replicas" : 2,
      "requestsCpu" : "250m",
      "requestsMem" : "512Mi"
    }, {
      "limitsCpu" : "500m",
      "limitsMem" : "512Mi",
      "name" : "node-local-dns-cache",
      "requestsCpu" : "25m",
      "requestsMem" : "5Mi"
    } ],
    "size" : "large"
  },
  "flavor2" : {
    "description" : "Has only one instance",
    "name" : "Single",
    "replicas" : 1,
    "resources" : [ {
      "limitsCpu" : "250m",
      "limitsMem" : "512Mi",
      "name" : "node-local-dns-admission-controller",
      "replicas" : 1,
      "requestsCpu" : "250m",
      "requestsMem" : "512Mi"
    }, {
      "limitsCpu" : "500m",
      "limitsMem" : "512Mi",
      "name" : "node-local-dns-cache",
      "requestsCpu" : "25m",
      "requestsMem" : "5Mi"
    } ],
    "size" : "small"
  },
  "flavor3" : {
    "description" : "custom resources",
    "name" : "custom-resources",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
            "replicas" : 2,
            "resources" : [ {
              "limitsCpu" : "250m",
              "limitsMem" : "512Mi",
              "name" : "node-local-dns-admission-controller",
              "replicas" : 2,
              "requestsCpu" : "250m",
              "requestsMem" : "512Mi"
            }, {
              "limitsCpu" : "500m",
              "limitsMem" : "512Mi",
              "name" : "node-local-dns-cache",
              "requestsCpu" : "25m",
              "requestsMem" : "5Mi"
            } ],
            "size" : "custom"
          }
        }
      },
      "translate" : {
        "zh_CN" : {
          "description" : {
            "Parameters" : {
              "flavor1" : {
                "description" : "Dual-instance deployment that features high availability but requires more
compute resources.",
                "name" : "High availability"
              },
              "flavor2" : {
                "description" : "A single pod for the automatic DNSConfig injection controller consumes fewer
resources.",
                "name" : "Single instance"
              },
              "flavor3" : {
                "description" : "Custom specifications.",
                "name" : "Custom specifications."
              }
            },
            "Parameters.flavor1.description" : "Dual-instance deployment that features high availability but
requires more compute resources.",
            "Parameters.flavor1.name" : "High availability",
            "Parameters.flavor2.description" : "A single pod for the automatic DNSConfig injection controller
consumes fewer resources.",
            "Parameters.flavor2.name" : "Single instance",
            "Parameters.flavor3.description" : "Custom specifications.",
            "Parameters.flavor3.name" : "Custom specifications."
          },
          "key" : null,
          "plugintemplate" : {
            "changeLog" : "Kubernetes v1.31 is supported. The admission-controller logs have been updated
to stdout logs. node-local-dns supports custom health check ports.",
            "components" : {
              "node-local-dns-admission-controller" : {
                "description" : "Automatically adds DNSConfig to pods. The node-local-dNS-cache address is
injected into the container's **/etc/resolv.conf** file. The container service then uses the local cache for DNS
domain name resolution.",
                "kind" : "Deployment"
              },
              "node-local-dns-cache" : {
                "description" : "Deploys a DNS cache proxy on each cluster node to boost DNS performance.",
                "kind" : "DaemonSet"
              }
            },
            "description" : "A DaemonSet that runs on cluster nodes and improves cluster DNS performance
using DNS cache proxies"
          }
        }
      }
    } ],
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "logoURL" : "https://obs.com/plugintemplates/node-local-dnslogo.svg"
   }
  } ]
}
```

Status code: 404

Not found.

```
{
  "error_code" : "ModelArts.50005101",
  "error_msg" : "Plugintemplate {name} not found."
}
```

Status Codes

Status Code	Description
200	Request succeeded.
404	Not found.

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

24 Scheduled Events

24.1 Authorizing Scheduled Events

Function

Specifies the authorization of a scheduled event.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

POST /v1/{project_id}/scheduled-events/{event_id}/accept

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 24-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A
event_id	Yes	String	**Definition**: Scheduled event ID. The value is the **event_id** field in the API for querying the scheduled event list. **Constraints**: N/A **Range**: The value is automatically generated by the system. It must start with a lowercase letter and consist of digits and hyphens (-). It cannot end with a hyphen (-) and can contain a maximum of 63 characters. **Default Value**: N/A

Table 24-2 Query Parameters

Parameter	Mandatory	Type	Description
workspaceId	No	String	**Definition**: Workspace ID. The default value is **0**. The value is the **id** field in the API for obtaining the workspace list. **Constraints**: The value is automatically generated by the system. It must start with a lowercase letter and cannot end with a hyphen (-). The value can contain at most 63 characters. Only lowercase letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 24-3 Request body parameters

Parameter	Mandatory	Type	Description
notBefore	No	String	**Definition**: Planned start time of an event, in the format of yyyy-MM-ddTHH:mm:ssZ. **Constraints**: N/A **Range**: later than the current time. **Default Value**: If this parameter is left empty, the event is executed immediately.

Response Parameters

Status code: 200

Table 24-4 Response header parameters

Parameter	Type	Description
X-request-id	String	**Definition**: Request ID for task tracing. The format is **request_uuid - - ** **Range**: N/A

Table 24-5 Response body parameters

Parameter	Type	Description
id	String	Event ID.
catalog	String	Category.
type	String	Event type. **system-maintenance**: system maintenance **localdisk-recovery**: local disk recovery **node_reboot**: node reboot **operation-request**: O&M authorization **node_maintenance**: supernode maintenance **node_redeploy**: supernode redeployment

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
description	String	Description.
state	String	Event status. **inquiring**: The request is to be authorized. **scheduled**: The request has been authorized. **executing**: The request is being executed. **completed**: The request is completed. **failed**: The request failed. **canceled**: The request is canceled.
instanceType	String	**Definition**: node type. **Range**: • **devserver**: lite-server node • **lite-cluster**: lite pool • **standard**: standard pool
instanceId	String	**Definition**: server ID. Instance ID automatically generated by the compute service system. The length of the ID is fewer than 63 characters. **Range**: N/A
nodeName	String	**Definition**: node name, which is the value of **metadata.name** in the node details. The value is automatically generated by the system. It must start with a lowercase letter and consist of digits and hyphens (-). It cannot end with a hyphen (-) and can contain no more than 63 characters. **Range**: N/A
poolName	String	**Definition**: Name of the resource pool. This parameter is only available for **lite-cluster** and **standard**. The value is obtained from the **metadata.name** field in resource pool details. The value is automatically generated by the system. It must start with a lowercase letter and consist of digits and hyphens (-). It cannot end with a hyphen (-) and can contain no more than 63 characters. **Range**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
poolDisplayName	String	**Definition**: Name of the resource pool displayed externally. This parameter is only available for **lite-cluster** and **standard**. The value is obtained from the **metadata.name** field in resource pool details. The value can contain 36 to 63 characters. It must start with a lowercase letter and cannot end with a hyphen (-). Digits and hyphens (-) are allowed. **Range**: N/A.
publishTime	String	**Definition**: Event release time. **Constraints**: The value is a UTC time string, for example, **2025-09-15T07:02:30Z**. **Range**: N/A **Default Value**: N/A
startTime	String	**Definition**: Start time of an event. **Constraints**: The value is a UTC time string, for example, **2025-09-15T07:02:30Z**. **Range**: N/A. **Default Value**: N/A.
finishTime	String	**Definition**: Event completion time. **Constraints**: The value is a UTC time string, for example, **2025-09-15T07:02:30Z**. **Range**: N/A **Default Value**: N/A
notBefore	String	**Definition**: start time of the event plan, in UTC time string format, for example, **2025-09-15T07:02:30Z**. **Constraints**: later than the current time. **Range**: N/A **Default Value**: If this parameter is left empty, the event is executed immediately.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
probeMsg	String	**Definition**: Prompt information. **Constraints**: The value is automatically generated by the system. It must start with a lowercase letter and consist of digits and hyphens (-). It cannot end with a hyphen (-) and can contain no more than 63 characters. **Range**: N/A **Default Value**: N/A
redeployType	Array of strings	**Definition**: Node redeployment type. **Constraints**: N/A **Range**: - **HARD**: forcible redeployment; - **SOFT**: redeployment **Default Value**: N/A

Status code: 400

Table 24-6 Response header parameters

Parameter	Type	Description
X-request-id	String	**Definition**: Request ID for task tracing. The format is **request_uuid - - ** **Range**: N/A

Table 24-7 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

```
/v1/{project_id}/scheduled-events/{event_id}/accept

{
  "notBefore" : "xxxx"
}
```

Example Responses

None

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
200	Event details.
400	Error response

Error Codes

See **Error Codes**.

24.2 Obtaining the Scheduled Event List

Function

This API is used to obtain the scheduled event list.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/scheduled-events

Table 24-8 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: User project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 24-9 Query Parameters

Parameter	Mandatory	Type	Description
workspaceId	No	String	**Definition**: Workspace ID. The default value is **0**. The value is the **id** field in the API for querying the workspace list. **Constraints**: The value is automatically generated by the system. It must start with a lowercase letter and consist of digits and hyphens (-). It cannot end with a hyphen (-) and can contain no more than 63 characters. **Range**: N/A **Default Value**: N/A
state	No	Array of strings	**Definition**: Event status. **Constraints**: N/A **Range** • **inquiring**: To be authorized. • **scheduled**: To be executed. • **executing**: Being executed. • **completed**: Executed. • **failed**: Execution failed. **canceled**: Canceled. **Default Value**: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 24-10 Response header parameters

Parameter	Type	Description
X-request-id	String	This field is the request ID number for task tracking. Format is request_uuid-timestamp-hostname.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 24-11 Response body parameters

Parameter	Type	Description
events	Array of **ScheduledEvent** objects	**Definition**: Scheduled event list.

Table 24-12 ScheduledEvent

Parameter	Type	Description
id	String	Event ID.
catalog	String	Category.
type	String	Event type. **system-maintenance**: system maintenance **localdisk-recovery**: local disk recovery **node_reboot**: node reboot **operation-request**: O&M authorization **node_maintenance**: supernode maintenance **node_redeploy**: supernode redeployment
description	String	Description.
state	String	Event status. **inquiring**: The request is to be authorized. **scheduled**: The request has been authorized. **executing**: The request is being executed. **completed**: The request is completed. **failed**: The request failed. **canceled**: The request is canceled.
instanceType	String	**Definition**: node type. **Range**: • **devserver**: lite-server node • **lite-cluster**: lite pool • **standard**: standard pool

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
instanceId	String	**Definition**: server ID. Instance ID automatically generated by the compute service system. The length of the ID is fewer than 63 characters. **Range**: N/A
nodeName	String	**Definition**: node name, which is the value of **metadata.name** in the node details. The value is automatically generated by the system. It must start with a lowercase letter and consist of digits and hyphens (-). It cannot end with a hyphen (-) and can contain no more than 63 characters. **Range**: N/A
poolName	String	**Definition**: Name of the resource pool. This parameter is only available for **lite-cluster** and **standard**. The value is obtained from the **metadata.name** field in resource pool details. The value is automatically generated by the system. It must start with a lowercase letter and consist of digits and hyphens (-). It cannot end with a hyphen (-) and can contain no more than 63 characters. **Range**: N/A
poolDisplayName	String	**Definition**: Name of the resource pool displayed externally. This parameter is only available for **lite-cluster** and **standard**. The value is obtained from the **metadata.name** field in resource pool details. The value can contain 36 to 63 characters. It must start with a lowercase letter and cannot end with a hyphen (-). Digits and hyphens (-) are allowed. **Range**: N/A.
publishTime	String	**Definition**: Event release time. **Constraints**: The value is a UTC time string, for example, **2025-09-15T07:02:30Z**. **Range**: N/A **Default Value**: N/A

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
startTime	String	**Definition**: Start time of an event. **Constraints**: The value is a UTC time string, for example, **2025-09-15T07:02:30Z**. **Range**: N/A. **Default Value**: N/A.
finishTime	String	**Definition**: Event completion time. **Constraints**: The value is a UTC time string, for example, **2025-09-15T07:02:30Z**. **Range**: N/A **Default Value**: N/A
notBefore	String	**Definition**: start time of the event plan, in UTC time string format, for example, **2025-09-15T07:02:30Z**. **Constraints**: later than the current time. **Range**: N/A **Default Value**: If this parameter is left empty, the event is executed immediately.
probeMsg	String	**Definition**: Prompt information. **Constraints**: The value is automatically generated by the system. It must start with a lowercase letter and consist of digits and hyphens (-). It cannot end with a hyphen (-) and can contain no more than 63 characters. **Range**: N/A **Default Value**: N/A
redeployType	Array of strings	**Definition**: Node redeployment type. **Constraints**: N/A **Range**: - **HARD**: forcible redeployment; - **SOFT**: redeployment **Default Value**: N/A

Status code: 400

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 24-13 Response header parameters

Parameter	Type	Description
X-request-id	String	This field is the request ID number for task tracking. Format is request_uuid-timestamp-hostname.

Table 24-14 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error description.

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
200	Response to the request for querying the scheduled event list.
400	Error response

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

25 Application Authentication Management

25.1 Querying the API Authentication Information of an Application

Function

This API is used to query the API authentication information of an application.

Debugging

You can debug this API through automatic authentication in **API Explorer** or use the SDK sample code generated by API Explorer.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see **Permissions Policies and Supported Actions** for details on the required permissions.
- If you are using identity policy-based authorization, no identity policy-based permission required for calling this API.

URI

GET /v1/{project_id}/services/{service_id}/app-auth-apis

Table 25-1 Path Parameters

Parameter	Mandatory	Type	Description
service_id	Yes	String	Service ID

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
project_id	Yes	String	**Definition**: Project ID. For details, see **Obtaining a Project ID and Name**. **Constraints**: The value can contain 1 to 64 characters. Letters, digits, and hyphens (-) are allowed. **Range**: N/A **Default Value**: N/A

Table 25-2 Query Parameters

Parameter	Mandatory	Type	Description
workspace_id	No	String	**Definition**: Workspace ID. . **Constraints**: There must be a workspace in use. **Range**: N/A **Default Value**: **0**

Request Parameters

Table 25-3 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	**Definition**: User token. It can be obtained by calling the IAM API. The token is the value of **X-Subject-Token** in the response header. **Constraints**: N/A **Range**: N/A **Default Value**: N/A

Response Parameters

Status code: 200

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 25-4 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 25-5 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: • **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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "apis" : [ {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "api_id" : "528087f0cfec48f7959db7834ee441cb",
    "api_method" : "ANY",
    "api_name" : "testNoneAuth",
    "api_remark" : "string",
    "auth_type" : "APP",
    "predict_url" : "https://3565150c2e5c45d0989be40350dd80ed.apig.xxxxxx.com/test",
    "service_id" : "bb149aac-5ff4-497c-bb73-acb751e20a11",
    "service_name" : "service-hutest",
    "support_app_code" : false
  } ],
  "count" : 1,
  "total_count" : 1
}
```


Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

26 Use Cases

26.1 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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
→MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...
```

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
  →***MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***
- Content-Type →application/json

Set the following parameters based on site requirements:

- *ma_endpoint*: ModelArts endpoint
- *project_id*: user's project ID

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- **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",
   "tag": "pytorch_1.8.0-cuda_10.2-py_3.7-ubuntu_18.04-x86_64-20221118143845-d65d817",
   "tags": [],
   "type": "BUILD_IN",
   "update_at": 1648866992843,
   "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-e936c8e54202",
   "name": "mindspore1.7.0-cuda10.1-py3.7-ubuntu18.04",
   "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_64-20221118143809-d65d817",
   "tag": "mindspore_1.7.0-cuda_10.1-py_3.7-ubuntu_18.04-x86_64-20221118143809-d65d817",
   "tags": [],
   "type": "BUILD_IN",
   "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": "c0b31f09-1490-4555-9b8b-ab0b2de35b20",
   "name": "mindspore1.7.0-py3.7-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_64-20221118143809-d65d817",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "tag": "mindspore_1.7.0-cpu-py_3.7-ubuntu_18.04-x86_64-20221118143809-d65d817",
  "tags": [],
  "type": "BUILD_IN",
  "workspace_id": "0"
 },
 {
  "arch": "x86_64",
  "description": "CPU and GPU general algorithm development and training, preconfigured with
AI engine TensorFlow2.1",
  "dev_services": [
   "NOTEBOOK",
   "SSH"
  ],
  "id": "e1a07296-22a8-4f05-8bc8-e936c8e54100",
  "name": "tensorflow2.1-cuda10.1-cudnn7-ubuntu18.04",
  "resource_categories": [
   "CPU",
   "GPU"
  ],
  "service_type": "COMMON",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/tensorflow_2_1:tensorflow_2.1.0-cuda_10.1-
py_3.7-ubuntu_18.04-x86_64-20221121111529-d65d817",
  "tag": "tensorflow_2.1.0-cuda_10.1-py_3.7-ubuntu_18.04-x86_64-20221121111529-d65d817",
  "tags": [],
  "type": "BUILD_IN",
  "update_at": 1643166780367,
  "workspace_id": "0"
 },
 {
  "arch": "x86_64",
  "description": "CPU and GPU general algorithm development and training, preconfigured with
AI engine PyTorch1.10 and cuda10.2",
  "dev_services": [
   "NOTEBOOK",
   "SSH"
  ],
  "id": "d996b661-e127-48c4-a90a-fca29535f201",
  "name": "pytorch1.10-cuda10.2-cudnn7-ubuntu18.04",
  "resource_categories": [
   "CPU",
   "GPU"
  ],
  "service_type": "UNKNOWN",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/pytorch_1_10:pytorch_1.10.2-cuda_10.2-py_3.7-
ubuntu_18.04-x86_64-20221118143845-d65d817",
  "tag": "pytorch_1.10.2-cuda_10.2-py_3.7-ubuntu_18.04-x86_64-20221118143845-d65d817",
  "tags": [],
  "type": "BUILD_IN",
  "workspace_id": "0"
 },
 {
  "arch": "x86_64",
  "description": "Clean user customized base image include cuda10.2, conda",
  "dev_services": [
   "NOTEBOOK",
   "SSH"
  ],
  "id": "d937149a-785c-4d2d-a568-8dde7c06cca0",
  "name": "conda3-cuda10.2-cudnn7-ubuntu18.04",
  "resource_categories": [
   "GPU"
  ],
  "service_type": "UNKNOWN",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/user_defined_base:cuda_10.2-ubuntu_18.04-
x86_64-20230404095316-7fcd503",
  "tag": "cuda_10.2-ubuntu_18.04-x86_64-20230404095316-7fcd503",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "tags": [],
  "type": "BUILD_IN",
  "workspace_id": "0"
 },
 {
  "arch": "x86_64",
  "description": "Clean user customized base image only include conda",
  "dev_services": [
   "NOTEBOOK",
   "SSH"
  ],
  "id": "27542a4a-3b37-404d-add9-a7d2d2ce6893",
  "name": "conda3-ubuntu18.04",
  "resource_categories": [
   "CPU"
  ],
  "service_type": "UNKNOWN",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/user_defined_base:ubuntu_18.04-
x86_64-20230404095316-7fcd503",
  "tag": "ubuntu_18.04-x86_64-20230404095316-7fcd503",
  "tags": [],
  "type": "BUILD_IN",
  "workspace_id": "0"
 },
 {
  "arch": "x86_64",
  "description": "CPU and GPU general algorithm development and training, preconfigured with
AI engine PyTorch1.4",
  "dev_services": [
   "NOTEBOOK",
   "SSH"
  ],
  "id": "e1a07296-22a8-4f05-8bc8-e936c8e54099",
  "name": "pytorch1.4-cuda10.1-cudnn7-ubuntu18.04",
  "resource_categories": [
   "CPU",
   "GPU"
  ],
  "service_type": "TRAIN",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/pytorch_1_4:pytorch_1.4-cuda_10.1-py37-
ubuntu_18.04-x86_64-20221118143845-d65d817",
  "tag": "pytorch_1.4-cuda_10.1-py37-ubuntu_18.04-x86_64-20221118143845-d65d817",
  "tags": [],
  "type": "BUILD_IN",
  "update_at": 1648866992868,
  "workspace_id": "0"
 },
 {
  "arch": "x86_64",
  "description": "GPU algorithm development and training, preconfigured with AI engine
TensorFlow1.13.1",
  "dev_services": [
   "NOTEBOOK",
   "SSH"
  ],
  "id": "b80bbf3d-a7af-42f6-ad12-33ff9116ab0d",
  "name": "tensorflow1.13-cuda10.0-cudnn7-ubuntu18.04",
  "resource_categories": [
   "GPU"
  ],
  "service_type": "TRAIN",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/tensorflow_1_13:tensorflow_1.13-cuda_10.0-
py_3.7-ubuntu_18.04-x86_64-20221118143845-d65d817",
  "tag": "tensorflow_1.13-cuda_10.0-py_3.7-ubuntu_18.04-x86_64-20221118143845-d65d817",
  "tags": [],
  "type": "BUILD_IN",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "update_at": 1648866992960,
  "workspace_id": "0"
 },
 {
  "arch": "aarch64",
  "create_at": 1608937196685,
  "description": "Ascend+ARM algorithm development and training. TensorFlow and MindSpore
are preset in the AI engine.",
  "dev_services": [
   "NOTEBOOK",
   "SSH"
  ],
  "id": "59a6e9f5-93c0-44dd-85b0-82f390c5d53a",
  "name": "tensorflow1.15-mindspore1.7.0-cann5.1.0-euler2.8-aarch64",
  "resource_categories": [
   "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": 1648866992983,
  "workspace_id": "0"
 },
 {
  "arch": "x86_64",
  "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.myhuaweicloud.com/atelier/modelarts-modelbox-libtorch-gpu-
x86:1.3.0-20221223142251-b3da6d6",
  "tag": "1.3.0-20221223142251-b3da6d6",
  "tags": [],
  "type": "BUILD_IN",
  "update_at": 1648866993005,
  "workspace_id": "0"
 },
 {
  "arch": "x86_64",
  "description": "AI inference application development, preconfigured ModelBox and AI engine
TensorRT, only SSH connection supported.",
  "dev_services": [
   "AI_FLOW",
   "SSH"
  ],
  "id": "e1a07296-22a8-4f05-8bc8-e936c8e54101",
  "name": "modelbox1.3.0-tensorrt7.1.3-cuda10.2-cudnn8-euler2.9.6",
  "resource_categories": [
   "GPU"
  ],
  "service_type": "TRAIN",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/modelarts-modelbox-tensorrt-gpu-
x86:1.3.0-20221223142251-b3da6d6",
  "tag": "1.3.0-20221223142251-b3da6d6",
  "tags": [],
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "type": "BUILD_IN",
  "update_at": 1648866993030,
  "workspace_id": "0"
 },
 {
  "arch": "aarch64",
  "description": "Ascend operator development. The professional operator development tool
MindStudio is preconfigured, only SSH connection supported.",
  "dev_services": [
   "SSH"
  ],
  "id": "e1a07296-22a8-4f05-8bc8-e936c8e54088",
  "name": "mindstudio5.0.rc1-ascend910-cann5.1.0-euler2.8.3-aarch64",
  "resource_categories": [
   "ASCEND"
  ],
  "service_type": "TRAIN",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/mindstudio-modelarts-
image:5.0.rc1-20230322101430-75f458a",
  "tag": "5.0.rc1-20230322101430-75f458a",
  "tags": [],
  "type": "BUILD_IN",
  "update_at": 1648866993052,
  "workspace_id": "0"
 },
 {
  "arch": "x86_64",
  "description": "CPU algorithm development and training, preconfigured PySpark 2.4.5 and
scala 2.11.12 for code development in local notebook and remote spark cluster including MRS
and DLI",
  "dev_services": [
   "NOTEBOOK"
  ],
  "id": "0b2d0728-4c01-11ec-994f-001a7dda7112",
  "name": "spark2.4.5-ubuntu18.04",
  "resource_categories": [
   "CPU"
  ],
  "service_type": "TRAIN",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/pyspark_2_4_5:develop-remote-pyspark_2.4.5-
py_3.7-cpu-ubuntu_18.04-x86_64-uid1000-20221222203856-fcc979e",
  "tag": "develop-remote-pyspark_2.4.5-py_3.7-cpu-ubuntu_18.04-x86_64-
uid1000-20221222203856-fcc979e",
  "tags": [],
  "type": "BUILD_IN",
  "update_at": 1648867218663,
  "workspace_id": "0"
 },
 {
  "arch": "x86_64",
  "create_at": 1605759392357,
  "description": "CPU algorithm development and training, preconfigured with the AI engine
MindSpore-CPU",
  "dev_services": [
   "NOTEBOOK",
   "SSH"
  ],
  "id": "65f636a0-56cf-49df-b941-7d2a07ba8c8c",
  "name": "mindspore1.2.0-openmpi2.1.1-ubuntu18.04",
  "resource_categories": [
   "CPU"
  ],
  "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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
 "tags": [],
 "type": "BUILD_IN",
 "update_at": 1643166780389,
 "workspace_id": "0"
},
{
 "arch": "x86_64",
 "create_at": 1664501979865,
 "description": "",
 "dev_services": [
  "NOTEBOOK",
  "SSH"
 ],
 "id": "df78b3f7-98a4-4616-aef0-71cfff4195c9",
 "name": "spark",
 "namespace": "testdli002",
 "origin": "CUSTOMIZE",
 "resource_categories": [
  "CPU"
 ],
 "service_type": "UNKNOWN",
 "size": 1133670676,
 "status": "ACTIVE",
 "swr_path": "swr.myhuaweicloud.com/testdli002/spark:2.4.5.tensorflow",
 "tag": "2.4.5.tensorflow",
 "tags": [],
 "type": "DEDICATED",
 "update_at": 1664501979865,
 "visibility": "PRIVATE",
 "workspace_id": "0"
},
{
 "arch": "x86_64",
 "create_at": 1664513619044,
 "description": "",
 "dev_services": [
  "NOTEBOOK",
  "SSH"
 ],
 "id": "836ab55d-4a02-4dbb-b04f-ece555d642a8",
 "name": "tensorflow2_1_1",
 "namespace": "hwstaff_pub_cbuinfo_ei",
 "origin": "IMAGE_SAVE",
 "resource_categories": [
  "CPU",
  "GPU"
 ],
 "service_type": "COMMON",
 "size": 5094544544,
 "status": "ERROR",
 "status_message": "",
 "swr_path": "swr.myhuaweicloud.com/hwstaff_pub_cbuinfo_ei/tensorflow2_1_1:1.0.0",
 "tag": "1.0.0",
 "tags": [],
 "type": "DEDICATED",
 "update_at": 1664513676950,
 "visibility": "PRIVATE",
 "workspace_id": "0"
},
{
 "arch": "x86_64",
 "create_at": 1668482562290,
 "description": "test",
 "dev_services": [
  "NOTEBOOK",
  "SSH"
 ],
 "id": "689c81b3-15dd-4500-b63e-1871e24eb391",
 "name": "pytorch_1_8",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "namespace": "atelier",
  "origin": "CUSTOMIZE",
  "resource_categories": [
   "GPU"
  ],
  "service_type": "UNKNOWN",
  "size": 8285974481,
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/pytorch_1_8:pytorch_1.8.2-cuda_11.1-py_3.7-
ubuntu_18.04-x86_64-20220926104358-041ba2e",
  "tag": "pytorch_1.8.2-cuda_11.1-py_3.7-ubuntu_18.04-x86_64-20220926104358-041ba2e",
  "tags": [],
  "type": "DEDICATED",
  "update_at": 1668482562290,
  "visibility": "PRIVATE",
  "workspace_id": "0"
 },
 {
  "arch": "aarch64",
  "description": "Ascend+ARM algorithm development and training. MindSpore is preset in the
AI engine.",
  "dev_services": [
   "NOTEBOOK",
   "SSH"
  ],
  "id": "f6d0908e-9596-41f9-9843-83089cbdd0de",
  "name": "mindspore1.7.0-cann5.1.0-py3.7-euler2.8.3",
  "namespace": "atelier",
  "resource_categories": [
   "ASCEND"
  ],
  "service_type": "UNKNOWN",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/mindspore_1_7_0:mindspore_1.7.0-cann_5.1.0-
py_3.7-euler_2.8.3-aarch64-d910-20220906",
  "tag": "mindspore_1.7.0-cann_5.1.0-py_3.7-euler_2.8.3-aarch64-d910-20220906",
  "tags": [],
  "type": "BUILD_IN",
  "workspace_id": "0"
 },
 {
  "arch": "aarch64",
  "description": "Ascend+ARM algorithm development and training. TensorFlow is preset in the
AI engine.",
  "dev_services": [
   "NOTEBOOK",
   "SSH"
  ],
  "id": "c5b7507b-ca8d-48d5-a373-fe4b42c66ed8",
  "name": "tensorflow1.15-cann5.1.0-py3.7-euler2.8.3",
  "namespace": "atelier",
  "resource_categories": [
   "ASCEND"
  ],
  "service_type": "UNKNOWN",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/tensorflow_1_15_ascend:tensorflow_1.15-
cann_5.1.0-py_3.7-euler_2.8.3-aarch64-d910-20220906",
  "tag": "tensorflow_1.15-cann_5.1.0-py_3.7-euler_2.8.3-aarch64-d910-20220906",
  "tags": [],
  "type": "BUILD_IN",
  "workspace_id": "0"
 },
 {
  "arch": "x86_64",
  "create_at": 1678261148079,
  "description": "",
  "dev_services": [
   "NOTEBOOK",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "SSH"
   ],
   "id": "e1ab81ef-f452-46b5-9663-6fc1f982f9e9",
   "name": "grafana",
   "namespace": "hwstaff_pub_cbuinfo_ei",
   "origin": "IMAGE_SAVE",
   "resource_categories": [
    "CPU",
    "GPU"
   ],
   "service_type": "COMMON",
   "size": 5247805223,
   "status": "ACTIVE",
   "status_message": "",
   "swr_path": "swr.myhuaweicloud.com/hwstaff_pub_cbuinfo_ei/grafana:v1.0",
   "tag": "v1.0",
   "tags": [],
   "type": "DEDICATED",
   "update_at": 1678261330238,
   "visibility": "PRIVATE",
   "workspace_id": "0"
  },
  {
   "arch": "x86_64",
   "create_at": 1681973786157,
   "dev_services": [
    "NOTEBOOK",
    "SSH"
   ],
   "id": "a5a43175-30a6-43d2-9596-38bee562f8c0",
   "name": "pytorch_1_8",
   "namespace": "sdk-test2",
   "origin": "CUSTOMIZE",
   "resource_categories": [
    "CPU",
    "GPU"
   ],
   "service_type": "UNKNOWN",
   "size": 2308736380,
   "status": "ACTIVE",
   "swr_path": "swr.myhuaweicloud.com/sdk-test2/pytorch_1_8:v2",
   "tag": "v2",
   "tags": [],
   "type": "DEDICATED",
   "update_at": 1681973786157,
   "visibility": "PRIVATE",
   "workspace_id": "0"
  },
  {
   "arch": "aarch64",
   "create_at": 1682670088194,
   "description": "Ascend+ARM algorithm development and training. MindSpore is preset in the
AI engine.",
   "dev_services": [
    "NOTEBOOK",
    "SSH"
   ],
   "id": "75cbf0f2-0a3e-48c9-b2c4-7e78af18d86e",
   "name": "mindspore_1.9.0-cann_6.0.0-py_3.7-euler_2.8.3",
   "namespace": "atelier",
   "resource_categories": [
    "ASCEND"
   ],
   "service_type": "TRAIN",
   "size": 4011027643,
   "status": "ACTIVE",
   "swr_path": "swr.myhuaweicloud.com/atelier/mindspore_1_9_ascend:mindspore_1.9.0-
cann_6.0.0-py_3.7-euler_2.8.3-aarch64-d910-20221116111529",
   "tag": "mindspore_1.9.0-cann_6.0.0-py_3.7-euler_2.8.3-aarch64-d910-20221116111529",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "tags": [],
  "type": "BUILD_IN",
  "update_at": 1682670088197,
  "visibility": "PUBLIC",
  "workspace_id": "0"
 },
 {
  "arch": "x86_64",
  "description": "notebook2.0 gpu",
  "dev_services": [
   "NOTEBOOK",
   "SSH"
  ],
  "id": "e1a07296-22a8-4f05-8bc8-e936c8e54092",
  "name": "notebook2.0-mul-kernel-cpu-cp36",
  "resource_categories": [
   "GPU"
  ],
  "service_type": "TRAIN",
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/notebook2.0-mul-kernel-gpu-cp36:5.0.1-release-
v2-20220505",
  "tag": "5.0.1-release-v2-20220505",
  "tags": [],
  "type": "BUILD_IN",
  "update_at": 1628221753209,
  "workspace_id": "0"
 },
 {
  "arch": "aarch64",
  "create_at": 1683537880541,
  "description": "Ascend+ARM algorithm development and training. MindSpore is preset in the
AI engine.",
  "dev_services": [
   "NOTEBOOK",
   "SSH"
  ],
  "id": "31ae7ba4-63e6-4fa6-8aeb-cb382953e414",
  "name": "mindspore_1.10.0-cann_6.0.1-py_3.7-euler_2.8.3",
  "namespace": "atelier",
  "resource_categories": [
   "ASCEND"
  ],
  "service_type": "COMMON",
  "size": 4057170552,
  "status": "ACTIVE",
  "swr_path": "swr.myhuaweicloud.com/atelier/mindspore_1_10_ascend:mindspore_1.10.0-
cann_6.0.1-py_3.7-euler_2.8.3-aarch64-d910-20230303173945-815d627",
  "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 cylp, cbcpy, ortools,
cplex(community).",
  "dev_services": [
   "NOTEBOOK",
   "SSH"
  ],
  "id": "b9933af0-3119-4045-a427-5e668327dafd",
  "name": "cylp0.91.4-cbcpy2.10-ortools9.0-cplex20.1.0-ubuntu18.04",
  "namespace": "atelier",
  "resource_categories": [
   "CPU"
  ],
  "service_type": "TRAIN",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "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"
  ],
  "id": "1d1b1327-b243-425b-ad81-2689584c1acc",
  "name": "mls-feature-engineering",
  "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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "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 → ***MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***
   - 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."
  },
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
 "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-18a2-010a574aeaaf",
"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
   → ***MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***

   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": [
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
 {
  "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": "878991804cdc4ba597xxxxxxxxxx9dd9",
  "name": "hwstaff_pub_CBUInfo_EI"
 },
 "id": "99250e439b33431081xxxxxxxxxxa885",
 "name": "xwx1128222"
},
"user_id": "99250e439b33431081xxxxxxxxxxa885",
"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: PATH https://*{ma_endpoint}*/v1/*{project_id}*notebooks/*{id}*/lease

   Request header:

   - X-auth-Token
     → ***MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***
   - Content-Type →application/json

   Request body:

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
  "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: POSThttps://*{ma_endpoint}*//v1/*{project_id}*/notebooks/*{id}*/stop

Request header: X-auth-Token
→ ***MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***

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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
 "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": "878991804cdc4ba597xxxxxxxxxx9dd9",
   "name": "hwstaff_test"
  },
  "id": "99250e439b33431081xxxxxxxxxxa885",
  "name": "test"
 },
 "user_id": "99250e439b33431081xxxxxxxxxxa885",
 "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
      → ***MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***

      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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
 "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": "878991804cdc4ba597xxxxxxxxxx9dd9",
   "name": "hwstaff_test"
  },
  "id": "99250e439b33431081xxxxxxxxxxa885",
  "name": "test"
 },
 "user_id": "99250e439b33431081xxxxxxxxxxa885",
 "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 → ***MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***
      - 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.

26.2 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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"
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    }
   }
  }
}
```

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
→ MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...
```

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
→ ***MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***

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,
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
        "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-
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
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 → ***MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***

   Content-Type → application/json

   Set the bold parameters based on site requirements.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
            "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
     → ***MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- 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": []
        }
      }
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    ],
    "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"
          }
        }
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
        }
    },
    "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
      → ***MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***

      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
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
        ],
        [
            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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
            "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 → ***MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***

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=BedFZHEU1oCmqll912UL9mXlhkg%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 → ***MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***

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
         ]
      },
      {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
            "metric": "npuUtil",
            "value": [
                -1,
                -1,
                -1,
                -1,
                -1,
                -1,
                -1,
                -1,
                -1
            ]
        },
        {
            "metric": "npuMemUsage",
            "value": [
                -1,
                -1,
                -1,
                -1,
                -1,
                -1,
                -1,
                -1,
                -1
            ]
        },
        {
            "metric": "gpuUtil",
            "value": [
                -1,
                -1,
                -1,
                -1,
                -1,
                -1,
                -1,
                -1,
                -1
            ]
        },
        {
            "metric": "gpuMemUsage",
            "value": [
                -1,
                -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 → ***MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...***

   Set the bold parameters based on site requirements.

b. Status code **202 No Content** is returned, indicating that the job is successfully deleted.

26.3 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 →
MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...
```

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 →*MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...*
- 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

a. Request body:

URI: POST https://*{endpoint}*/v2/*{project_id}*/authorizations

Request header:

- X-auth-Token → *MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...*
- 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 → *MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...*

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*****

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request header: X-auth-Token
→ *MIIZmgYJKoZIhvcNAQcCoIIZizCCGYcCAQExDTALBglghkgBZQMEAgEwgXXXXXX...*

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!"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

27 Permissions Policies and Supported Actions

27.1 Introduction

This section describes fine-grained permissions management for ModelArts. If your Huawei Cloud account does not require individual IAM users, skip this section.

New IAM users do not have any permissions assigned by default. You need to first add them to one or more groups and attach policies or roles to these groups. The users then inherit permissions from the groups and can perform specified operations on cloud services based on the permissions they have been assigned.

You can grant users permissions by using **roles** and **policies**. Roles are provided by IAM to define service-based permissions that match users' job responsibilities. Policies are more fine-grained, API-based permissions required to perform operations on specific cloud resources under certain conditions, meeting requirements for secure access control.

NOTE

If you want to allow or deny the access to an API, use fine-grained policies.

An account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions. The required permissions are determined by the actions supported by the API. Only users with the policies allowing for those actions can call the API successfully. For example, if an IAM user wants to create notebook instances using an API, the user must have been granted permissions that allow the **modelarts:notebook:create** action.

Supported Actions

ModelArts provides system policies that can be directly used in IAM. You can also create custom policies and use them to supplement system policies, implementing more refined access control. The following are related concepts:

- Permission: A statement in a policy that allows or denies certain operations.
- APIs: REST APIs that can be called in a custom policy.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- Actions: specific operations that are allowed or denied.
- Dependencies: actions which a specific action depends on. When allowing an action for a user, you also need to allow its dependent actions for that user.
- 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 applied for both IAM and Enterprise Management. Policies that contain actions only for IAM projects can be used and applied to IAM only. For details about the differences between IAM and enterprise projects, see **Differences Between IAM and Enterprise Management**.

  NOTE

  √: supported; x: not supported

27.2 Workflow Permissions

Workflow APIs are for internal use only. To use workflow functions on the management console and manage permissions, perform the operations described in the following table.

Table 27-1 Fine-grained workflow permissions

Permission	Action	Related Action	IAM Project	Enterprise Project
Creating a workflow	modelarts:workflow:create	-	√	√
Updating a workflow	modelarts:workflow:update	-	√	√
Deleting a workflow	modelarts:workflow:delete	-	√	√
Executing a workflow	modelarts:workflow:execute	-	√	√
Obtaining workflow details	modelarts:workflow:get	-	√	√
Obtaining workflows	modelarts:workflow:list	-	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

27.3 Data Management Permissions

Table 27-2 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:list	N/A	√	√
Creating a Dataset	POST /v2/{project_id}/datasets	modelarts:dataset:create	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:get	N/A	√	√
Modifying a Dataset	PUT /v2/{project_id}/datasets/{dataset_id}	modelarts:dataset:update	N/A	√	√
Deleting a Dataset	DELETE /v2/{project_id}/datasets/{dataset_id}	modelarts:dataset:delete	obs:bucket:ListAllMyBuckets obs:bucket:ListBucket obs:object:DeleteObject	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying Dataset Statistics	GET /v2/{project_id}/datasets/{dataset_id}/data-annotations/stats	modelarts:dataset:get	N/A	√	√
Querying the Monitoring Data of a Dataset	GET /v2/{project_id}/datasets/{dataset_id}/metrics	modelarts:dataset:get	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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 27-3 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:get	N/A	√	√
Creating a Dataset Labeling Version	POST /v2/{project_id}/datasets/{dataset_id}/versions	modelarts:dataset:publishVersion	obs:object:PutObject	√	√
Querying Details About a Dataset Version	GET /v2/{project_id}/datasets/{dataset_id}/versions/{version_id}	modelarts:dataset:get	N/A	√	√
Deleting a Dataset Labeling Version	DELETE /v2/{project_id}/datasets/{dataset_id}/versions/{version_id}	modelarts:dataset:deleteVersion	obs:bucket:ListAllMyBuckets obs:bucket:ListBucket obs:object:DeleteObject	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 27-4 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	√	√
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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
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	√	√
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 27-5 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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
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	√	√
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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 27-6 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 27-7 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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
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	√	√
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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
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 27-8 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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 27-9 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	√	√
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 27-10 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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
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	√	√
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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 27-11 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	√	√
Querying Details About a Dataset Import Task	GET /v2/{project_id}/datasets/{dataset_id}/import-tasks/{task_id}	modelarts:dataset:getDataset	N/A	√	√

Table 27-12 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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
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 27-13 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	√	√
Querying the Status of a Dataset Synchronization Task	GET /v2/{project_id}/datasets/{dataset_id}/sync-data/status	modelarts:dataset:getDataset	N/A	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 27-14 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:sample:listSamples	obs:object:GetObject	√	√
Querying Details About an Auto Labeling Sample	GET /v2/{project_id}/datasets/{dataset_id}/auto-annotations/samples/{sample_id}	modelarts:sample:getSample	obs:object:GetObject	√	√
Querying Auto Labeling Tasks by Page	GET /v2/{project_id}/datasets/{dataset_id}/tasks	modelarts:dataset:getDataset	N/A	√	√
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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
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 27-15 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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
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	√	√
Updating a Data Processing Task	PUT /v2/{project_id}/processor-tasks/{task_id}	modelarts:processTask:updateProcessTask	N/A	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
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	√	√
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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying Details About a Data Processing Task Version	GET /v2/{project_id}/processor-tasks/{task_id}/versions	modelarts:processTask:getProcessTask	N/A	√	√
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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

27.4 DevEnviron Permissions

Table 27-16 Fine-grained permissions for DevEnviron

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Creating a notebook instance	POST /v1/{project_id}/notebooks	modelarts:notebook:create	swr:repo:listRepoTags swr:repo:getRepo swr:namespace:getNamespace swr:repo:getRepoDomain swr:repository:getTag swr:instance:get swr:instance:createTempCredential kps:SSHKeyPair:get vpc:vpcs:list vpc:subnets:get vpc:securityGroups:get vpc:quotas:list vpc:subnets:get csms:secret:get csms:secret:getVersion sfsturbo:shares:getShare obs:object:GetObject obs:bucket:HeadBucket obs:bucket:GetBucketPolicy obs:bucket:PutBucketPolicy	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
			obs:bucket:GetBucketAcl obs:bucket:PutBucketAcl		
Querying notebook instances	GET /v1/{project_id}/notebooks	modelarts:notebook:list	-	√	√
Querying all notebook instances	GET /v1/{project_id}/notebooks/all	modelarts:notebook:listAllNotebooks	-	√	×
Obtaining details about a notebook instance	GET /v1/{project_id}/notebooks/{id}	modelarts:notebook:get	-	√	√
Updating a notebook instance	PUT /v1/{project_id}/notebooks/{id}	modelarts:notebook:update	csms:secret:get csms:secret:getVersion kps:SSHKeyPair:get	√	√
Deleting a notebook instance	DELETE /v1/{project_id}/notebooks/{id}	modelarts:notebook:delete	-	√	√
Saving a running instance as a container image	POST /v1/{project_id}/notebooks/{id}/create-image	modelarts:image:create	swr:namespace:getNamespace swr:repo:listRepoTags swr:repository:listNamespaces swr:repository:getTag	√	√
Obtaining available flavors supported by a notebook instance	GET /v1/{project_id}/notebooks/flavors	-	-	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Querying the list of available flavors supported by a notebook instance	GET /v1/{project_id}/notebooks/{id}/flavors	-	-	√	√
Obtaining the available duration of a running notebook instance	GET /v1/{project_id}/notebooks/{id}/lease	-	-	√	√
Renewing the duration of a notebook instance	PATCH /v1/{project_id}/notebooks/{id}/lease	modelarts:notebook:updateStopPolicy	-	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Starting a notebook instance	POST /v1/{project_id}/notebooks/{id}/start	modelarts:notebook:start	swr:repo:listRepoTags swr:repo:getRepo swr:namespace:getNamespace swr:repo:getRepoDomain swr:repository:getTag swr:instance:get swr:instance:createTempCredential kps:SSHKeyPair:get csms:secret:get csms:secret:getVersion sfsturbo:shares:getShare obs:object:GetObject obs:bucket:HeadBucket obs:bucket:GetBucketPolicy obs:bucket:PutBucketPolicy obs:bucket:GetBucketAcl obs:bucket:PutBucketAcl	√	√
Stopping a notebook instance	POST /v1/{project_id}/notebooks/{id}/stop	modelarts:notebook:stop	-	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Obtaining the OBS instance information list	GET /v1/{project_id}/notebooks/{id}/storage	modelarts:notebook:listMountedStorages	-	√	√
Mounting OBS dynamically	POST /v1/{project_id}/notebooks/{instance_id}/storage	modelarts:notebook:mountStorage	-	√	√
Obtaining the details of a dynamically mounted OBS instance	GET /v1/{project_id}/notebooks/{instance_id}/storage/{storage_id}	modelarts:notebook:getMountedStorage	-	√	√
Dynamically unmounting OBS	DELETE /v1/{project_id}/notebooks/{instance_id}/storage/{storage_id}	modelarts:notebook:umountStorage	-	√	√
Adding resource tags	POST /v1/{project_id}/notebooks/{resource_id}/tags/create	modelarts:notebook:update	-	√	√
Deleting resource tags	DELETE /v1/{project_id}/notebooks/{resource_id}/tags/delete	modelarts:notebook:update	-	√	√
Obtaining notebook instance tags	GET /v1/{project_id}/notebooks/tags	modelarts:tag:list	-	√	√
Obtaining supported images	GET /v1/{project_id}/images	modelarts:image:list	-	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Registering a custom image	POST /v1/{project_id}/images	modelarts:image:register	swr:repo:listRepoTags swr:repo:getRepo swr:repo:getRepoDomain swr:repo:createRepoDomain swr:repository:getTag	√	√
Obtaining the user image list	GET /v1/{project_id}/images/group	modelarts:image:listGroup	-	√	√
Obtaining details of an image	GET /v1/{project_id}/images/{id}	modelarts:image:get	-	√	√
Deleting a custom image	DELETE /v1/{project_id}/images/{id}	modelarts:image:delete	swr:repo:listRepoTags swr:repo:deleteRepoTag swr:repository:getTag swr:repository:deleteTag	√	√
Synchronizing a custom image	POST /v1/{project_id}/images/{id}/sync	-	swr:repo:listRepoTags swr:repo:getRepo swr:namespace:getNamespace swr:repo:getRepoDomain swr:repository:getTag	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Opening a serverless development environment instance (Codelab)	POST /v1/{project_id}/notebooks/open	modelarts:notebook:open	swr:repo:listRepoTags swr:repo:getRepo swr:namespace:getNamespace swr:repo:getRepoDomain swr:repository:getTag swr:instance:get swr:instance:createTempCredential	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

27.5 Training Job Permissions

Table 27-17 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 swr:system:createLoginSecret swr:instance:createTempCredential 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	N/A	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Deleting a training job	DELETE /v2/{project_id}/training-jobs/{training_job_id}	modelarts:trainJob:delete	N/A	√	√
Obtaining details about a training job	GET /v2/{project_id}/training-jobs/{training_job_id}	modelarts:trainJob:get	N/A	√	√
Obtaining training jobs	POST /v2/{project_id}/training-job-searches	modelarts:trainJob:list	N/A	√	√
Previewing training job logs	GET /v2/{project_id}/training-jobs/{training_job_id}/tasks/{task_id}/logs/preview	N/A	N/A	√	√
Downloading training job logs	GET /v2/{project_id}/training-jobs/{training_job_id}/tasks/{task_id}/logs/url	modelarts:trainJob:logExport	N/A	√	√
Creating an algorithm	POST /v2/{project_id}/algorithms	modelarts:aiAlgorithm:create	N/A	√	√
Modifying an algorithm	PUT /v2/{project_id}/algorithms/{algorithm_id}	modelarts:aiAlgorithm:update	N/A	√	√
Deleting an algorithm	DELETE /v2/{project_id}/algorithms/{algorithm_id}	modelarts:aiAlgorithm:delete	N/A	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Obtaining algorithms	GET /v2/{project_id}/algorithms	modelarts:aiAlgorithm:list	N/A	√	√
Obtaining details about an algorithm	GET /v2/{project_id}/algorithms/{algorithm_id}	modelarts:aiAlgorithm:get	N/A	√	√

27.6 Model Management Permissions

Table 27-18 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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Related Action	IAM Project	Enterprise Project
Deleting a Model	DELETE /v1/{project_id}/models/{model_id}	modelarts:model:delete	N/A	√	√
Querying Details About a Model	GET /v1/{project_id}/models/{model_id}	modelarts:model:get	N/A	√	√

27.7 Service Management Permissions

Table 27-19 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	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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	√	√

27.8 Resource Pool Management Permissions

Table 27-20 Fine-grained permissions for resource pool management

Permission	API	Action	Dependency	IAM Project	Enterprise Project
Obtaining resource pools	GET /v2/{project_id}/pools	modelarts:pool:list	--	√	√
Obtaining details about a resource pool	GET /v2/{project_id}/pools/{pool_name}	modelarts:pool:get	--	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Dependency	IAM Project	Enterprise Project
Modifying a resource pool	PATCH /v2/{project_id}/pools/{pool_name}	modelarts:pool:update	--	√	√
Creating a resource pool	POST /v2/{project_id}/pools	modelarts:pool:create	--	√	√
Deleting a resource pool	DELETE /v2/{project_id}/pools/{pool_name}	modelarts:pool:delete	--	√	√

Table 27-21 Fine-grained permissions for network management

Permission	API	Action	Dependency	IAM Project	Enterprise Project
Obtaining networks	GET /v1/{project_id}/networks	modelarts:network:list	--	√	√
Obtaining details about a network	GET /v1/{project_id}/networks/{network_name}	modelarts:network:get	--	√	√
Modifying a network	PATCH /v1/{project_id}/networks/{network_name}	modelarts:network:update	vpc.*.get vpc.*.list	√	√
Creating a network	POST /v1/{project_id}/networks	modelarts:network:create	vpc.*.get vpc.*.list	√	√
Deleting a network	DELETE /v1/{project_id}/networks/{network_name}	modelarts:network:delete	--	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 27-22 Fine-grained permissions for edge resource pool management

Permission	API	Action	Dependency	IAM Project	Enterprise Project
Obtaining edge resource pools	GET /v1/{project_id}/edge-pools	modelarts:edgePool:list	ief.*.get ief.*.list	√	√
Obtaining details about an edge resource pool	GET /v1/{project_id}/edge-pools/{edge_pool_id}	modelarts:edgePool:get	ief.*.get ief.*.list	√	√
Modifying an edge resource pool	PUT /v1/{project_id}/edge-pools/{edge_pool_id}	modelarts:edgePool:update	ief.*.get ief.*.list	√	√
Creating an edge resource pool	POST /v1/{project_id}/edge-pools	modelarts:edgePool:create	ief.*.get ief.*.list	√	√
Deleting an edge resource pool	DELETE /v1/{project_id}/edge-pools/{edge_pool_id}	modelarts:edgePool:delete	--	√	√

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

27.9 Granting Management Permissions

Table 27-23 Fine-grained permissions for service management

Permission	API	Action	Dependency	IAM Project	Enterprise Project
Deleting fine-grained agency authorization	/v1/{project_id}/atelier/authorization /v1/{project_id}/authorizations /v1/{project_id}/atelier/authorization /v2/{project_id}/authorizations /atelier/v1/{project_id}/authorization	modelarts:authorization:delete	-	√	×
Creating fine-grained agency authorization	/atelier/v1/{project_id}/authorizations /v1/{project_id}/atelier/authorizations /v1/{project_id}/authorizations /v2/{project_id}/atelier/authorizations /v2/{project_id}/authorizations /v3/{project_id}/atelier/authorizations	modelarts:authorization:create	-	√	×

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Permission	API	Action	Dependency	IAM Project	Enterprise Project
Querying fine-grained agency authorization	/atelier/v1/{project_id}/authorization /v1/{project_id}/atelier/authorizations /v1/{project_id}/authorizations /v2/{project_id}/atelier/authorizations /v2/{project_id}/authorizations	modelarts:authorization:list	-	√	×
Creating a ModelArts agency	/v2/{project_id}/agency	-	iam:quotas:listForProject iam:agencies:create/ iam:agenciam:createV5 iam:roles:create iam:agencies:grantRole	√	×

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

28 Appendix

28.1 Status Code

Table 28-1 describes the status codes.

Table 28-1 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 exits, or the requested update failed due to a conflict.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

28.2 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2750	DuplicateEvalJobName	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	The input and output channel information is invalid: %s.	Please check the validity of the input and output channel information in the request according to the error prompt.
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	The code directory path is invalid: %s.	Please check the validity of the code directory path in the request according to the error prompt.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2758	BootFileDirError	The code startup file path is invalid: %s.	Please check the validity of the code startup file path in the request according to the error prompt.
400	ModelArts.2759	TooManyCodeFiles	There are too many code files. A maximum of %s files can be uploaded.	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	The character variable %s is not in the preset range %s.	Please enter the variable value based on the preset range.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2766	DoNotHaveDefaultValue	Parameter %s is missing a default value.	Please enter the default value.
400	ModelArts.2767	ParameterKeyRepeat	Duplicate parameter %s name.	Please rename the parameter name.
400	ModelArts.2768	DefaultValueTypeError	Parameter %s default value %s is inconsistent with parameter type %s.	Please check the validity of the parameter default values according to the error prompt.
400	ModelArts.2769	DefaultValueIsNotInRange	Parameter %s default value %s is not in the setting range %s.	Please ensure that the default value is within the setting range.
400	ModelArts.2770	RangeError	Parameter %s is out of range.	Please re-enter the parameter range.
400	ModelArts.2771	NotHavePermission	No %s permission	Please check the user permissions according to the error prompt.
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	Failed to retrieve file content for %s.	Please check the file permissions.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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	InvalidParam	Invalid parameter(%s).	Check the request parameter.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2789	UnsupportedFilterBy	The filter item %s is invalid: %s.	Please check the validity of the filter item.
400	ModelArts.2790	UnsupportedSortBy	The sorting item %s is not in the supported range: %s.	Please check the validity of the sorting ite
400	ModelArts.2791	InvalidObsPath	Invalid obs path: %s, reason: %s.	Check the obs path.
400	ModelArts.2792	BootFileNotBelongToCodeDir	The boot_file does not belong to the code_dir directory.	Check whether boot_file and code_dir are set correctly.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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	SWRCreateShareError	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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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 index %s has duplicates.	Please check whether the search index is repeated according to the error prompt.
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.2832	EngineNeedUpgrade	The AI engine version has been discontinued.	Please use the latest version of AI engine.
400	ModelArts.2833	ExceedeFreeFlavorQuota	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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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	NotOwnImagePublishGalleyError	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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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
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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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, ATMOST.	Failed to perform the operation because restraint can only be EXACT, ATLEAST, or ATMOST.	Change the restraint value to EXACT, ATLEAST, or ATMOST.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
400	ModelArts.3834	Failed to update metedata 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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 CBC request.	Try again or contact service O&M personnel.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4126	Account locked.	The account has been locked.	Wait until the account is unlocked and try again.
400	ModelArts.4128	Week 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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
400	ModelArts.4343	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.4344	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.4345	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.4346	Failed to obtain clusters.	Obtaining MRS clusters failed.	Check the MRS clusters.
400	ModelArts.4347	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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4349	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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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 contains tags to start auto deploy	The label set of the dataset cannot be empty.	Create labels for the dataset.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
400	ModelArts.4427	Dataset must contains 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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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 registed.	The activity has registed.	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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
400	ModelArts.6316	The param 'storage' is needed for creating notebook instance.	Incorrect parameters during instance creation.	Add the storage parameter.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Error Codes	Error Message	Description	Solution
401	ModelArts.0209	No key appId in header.	The appId request header is missing.	Use the correct APIG URL.
401	ModelArts.0210	No key apiId in header.	The apiId 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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	AuthorizationNotFound	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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 exists.	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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 exit.	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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 exists.	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 (-).

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

28.3 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

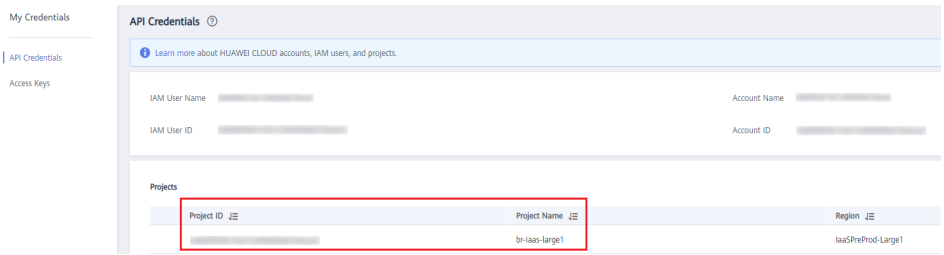
To do so, perform the following operations:

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 28-1 Viewing the project ID



 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 URIRegions 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"
    }
}
```

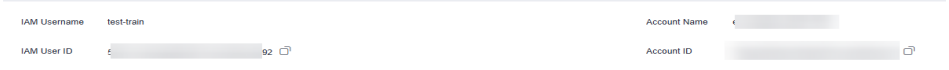
28.4 Obtaining an Account Name and ID

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 over the username and choose **My Credentials** from the drop-down list.

   On the **API Credentials** page, view the account name and ID.

   Figure 28-2 Viewing the account name and ID



28.5 Obtaining a Username and ID

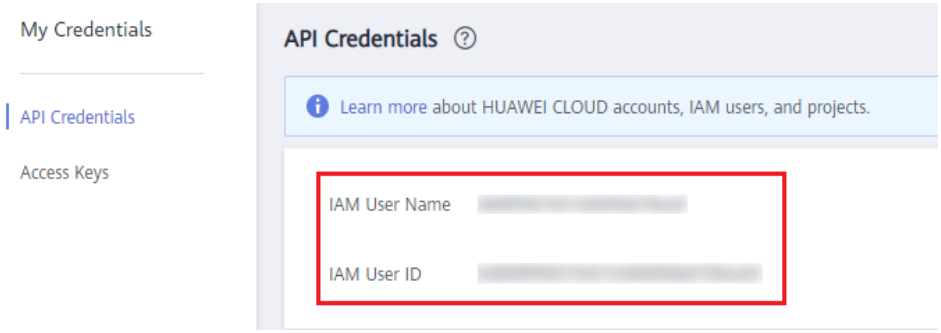
When you call APIs, certain requests require the username and ID. To obtain a username and ID, do as follows:

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 28-3 Viewing the username and ID



 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29 Historical APIs

29.1 Data Management (Old Version)

29.1.1 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 29-1 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-2 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: • **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)
contain_versions	No	Boolean	Whether the dataset contains a version.
dataset_type	No	Integer	Dataset type. Options: • **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: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **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: • **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: • **true**: Filter out only datasets that can be exported. • **false**: Do not filter out only datasets that can be exported. (Default value)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **0**: default format • **1**: CarbonData (supported only by table datasets) • **2**: CSV
with_labels	No	Boolean	Whether to return dataset labels. Options: • **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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

None

Response Parameters

Status code: 200

Table 29-3 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 29-4 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **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: • **true**: The dataset contains running tasks. • **false**: The dataset does not contain running tasks.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
exist_workforce_task	Boolean	Whether the dataset contains team labeling tasks. Options: • **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: • **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: • **true**: The dataset is hosted. • **false**: The dataset is not hosted.
next_version_num	Integer	Number of next versions of a dataset.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 */Bucket name/File path*. For example: /**obs-bucket**.
work_path_type	Integer	Type of the dataset output path. The default value is 0, indicating an OBS bucket.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-5 DataSource

Parameter	Type	Description
data_path	String	Data source path.
data_type	Integer	Data type. Options: • **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: • **true**: The first row in the file is the column name. • **false**: The first row in the file is not the column name.

Table 29-6 SchemaMap

Parameter	Type	Description
dest_name	String	Name of the destination column.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
src_name	String	Name of the source column.

Table 29-7 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: • **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 29-8 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-9 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-10 Field

Parameter	Type	Description
description	String	Schema description.
name	String	Schema name.
schema_id	Integer	Schema ID.
type	String	Schema value type.

Table 29-11 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: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **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: • **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: • **true**: Parse the subsample number. • **false**: Do not parse the subsample number. (Default value)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
include_dataset_data	Boolean	Whether to include the source data of a dataset during release. Options: • **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: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
processor_task_status	Integer	Status of a preprocessing task such as rotation and cropping. The options are as follows: • 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: • **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: • **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: • __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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
start_processor_task	Boolean	Whether to start a data analysis task during release. Options: • **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: • **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: • **Default**: default format • **CarbonData**: CarbonData (supported only by table datasets) • **CSV**: CSV
version_id	String	Dataset version ID.
version_name	String	Dataset version name.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-12 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: • **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 29-13 LabelAttribute

Parameter	Type	Description
default_value	String	Default value of a label attribute.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **text**: text • **select**: single-choice drop-down list
values	Array of **LabelAttributeValue** objects	List of label attribute values.

Table 29-14 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

Table 29-15 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: **#FFFFF0**.
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: • **bndbox**: rectangle • **polygon**: polygon • **circle**: circle • **line**: straight line • **dashed**: dotted line • **point**: point • **polyline**: polyline

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-16 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: • **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: • **true**: Synchronize updated data to team members. • **false**: Do not synchronize updated data to team members.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-17 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: • **0**: labeling personnel • **1**: reviewer • **2**: team administrator • **3**: dataset owner
status	Integer	Current login status of a labeling team member. Options: • **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
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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" : "54IXbeJhfttGpL46lbv",
    "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
    } ]
  } ]
}
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

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

Error Codes

See **Error Codes**.

29.1.2 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 29-18 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 29-19 Request body parameters

Parameter	Mandatory	Type	Description
data_format	No	String	Data format. Options: • **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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • 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: • **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: • **true**: Host a dataset. • **false**: Do not host a dataset. (Default value)
schema	No	Array of **Field** objects	Schema list.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
work_path	Yes	String	Output dataset path, which is used to store output files such as label files. • The format is */Bucket name/File path*, 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 29-20 DataSource

Parameter	Mandatory	Type	Description
data_path	No	String	Data source path.
data_type	No	Integer	Data type. Options: • **0**: OBS bucket (default value) • **1**: GaussDB(DWS) • **2**: DLI • **3**: RDS • **4**: MRS • **5**: AI Gallery • **6**: Inference service

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **true**: The first row in the file is the column name. • **false**: The first row in the file is not the column name.

Table 29-21 SchemaMap

Parameter	Mandatory	Type	Description
dest_name	No	String	Name of the destination column.
src_name	No	String	Name of the source column.

Table 29-22 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-23 LabelFormat

Parameter	Mandatory	Type	Description
label_type	No	String	Label type of text classification. Options: • **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: !@#$%^&*_=|?/':.;,
text_sample_separator	No	String	Separator between the text and label. By default, the **Tab** key is used as the separator. The separator needs to be escaped. The separator can contain only one character, such as a letter, a digit, or any of the following special characters: !@#$%^&*_=|?/':.;,

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-24 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: • **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 29-25 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. <>=&'".

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
type	No	String	Label attribute type. Options: • **text**: text • **select**: single-choice drop-down list
values	No	Array of **LabelAttributeValue** objects	List of label attribute values.

Table 29-26 LabelAttributeValue

Parameter	Mandatory	Type	Description
id	No	String	Label attribute value ID.
value	No	String	Label attribute value.

Table 29-27 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: **#FFFFF0**.
@modelarts:default_shape	No	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: • **bndbox**: rectangle • **polygon**: polygon • **circle**: circle • **line**: straight line • **dashed**: dotted line • **point**: point • **polyline**: polyline

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-28 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 29-29 WorkforceInformation

Parameter	Mandatory	Type	Description
data_sync_type	No	Integer	Synchronization type. Options: • **0**: not to be synchronized • **1**: data to be synchronized • **2**: label to be synchronized • **3**: data and label to be synchronized

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **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 29-30 WorkforcesConfig

Parameter	Mandatory	Type	Description
agency	No	String	Administrator
workforces	No	Array of **WorkforceConfig** objects	List of teams that execute labeling tasks.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-31 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 29-32 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: • **0**: labeling personnel • **1**: reviewer • **2**: team administrator • **3**: dataset owner
status	No	Integer	Current login status of a labeling team member. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-33 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" : [ {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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" : "WxCREuCkBSAlQr9xrde"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

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

Error Codes

See **Error Codes**.

29.1.3 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 29-34 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-35 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: • **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: • **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 29-36 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 */Bucket name/File path*. 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 29-37 DataSource

Parameter	Type	Description
data_path	String	Data source path.
data_type	Integer	Data type. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **true**: The first row in the file is the column name. • **false**: The first row in the file is not the column name.

Table 29-38 SchemaMap

Parameter	Type	Description
dest_name	String	Name of the destination column.
src_name	String	Name of the source column.

Table 29-39 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-40 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: • **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 29-41 Field

Parameter	Type	Description
description	String	Schema description.
name	String	Schema name.
schema_id	Integer	Schema ID.
type	String	Schema value type.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-42 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: • **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: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **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: • **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: • **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: • **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: • **multi**: Multi-label samples are included. • **single**: All samples are single-labeled.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • 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: • **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: • **true**: Rotate the image. • **false**: Do not rotate the image. (Default value)
rotate_path	String	Path for storing the rotated file.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sample_state	String	Sample status. The options are as follows: • __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
start_processor_task	Boolean	Whether to start a data analysis task during release. Options: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **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 29-43 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	Integer	Label type. Options: • **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 29-44 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: • **text**: text • **select**: single-choice drop-down list
values	Array of **LabelAttributeValue** objects	List of label attribute values.

Table 29-45 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-46 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: **#FFFFF0**.
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: • **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 29-47 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
is_synchronize_auto_labeling_data	Boolean	Whether to synchronously update auto labeling data. Options: • **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: • **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 29-48 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: • **0**: labeling personnel • **1**: reviewer • **2**: team administrator • **3**: dataset owner

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	Integer	Current login status of a labeling team member. Options: • **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,
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
 "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**.

29.1.4 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}

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-49 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 29-50 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 29-51 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-52 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: • **text**: Select a text label. • **select**: Select from the drop-down list.
values	No	Array of **LabelAttributeValue** objects	List of label attribute values

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-53 LabelAttributeValue

Parameter	Mandatory	Type	Description
id	No	String	Label attribute value ID
value	No	String	Label attribute value

Table 29-54 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, **#FFFFF0**.
@modelarts:default_shape	No	String	Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@modelarts:to_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 29-55 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" : "gfghHSokody6AJigS5A"
}
```

Status Code

Status Code	Description
200	OK
401	Unauthorized

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
403	Forbidden
404	Not Found

Error Code

For details, see **Error Codes**.

29.1.5 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 29-56 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
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**.

29.1.6 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 29-57 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-58 Query parameters

Parameter	Mandatory	Type	Description
email	No	String	Email address of a labeling team member
locale	No	String	Language . Options: • **zh-cn**: Chinese • **en-us**: English (default value)
sample_state	No	String	Statistics on the specified sample state. Options: • **__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 29-59 Response body parameters

Parameter	Type	Description
data_path	String	Path for storing data of a dataset
data_spliting_enable	Boolean	Whether the dataset can be split into training set and validation set based on the sample labeling statistics. Options: • **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 *Map*<**Integer,** *Pair*<**Integer, HardDetail**>>. 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 29-60 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sample_count	Integer	Number of samples containing the label
type	Integer	Label type. Options: • **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 29-61 PairOfintAndHardDetail

Parameter	Type	Description
key	Integer	Number of times that a hard example reason occurs
value	**HardDetail** object	Reason for a hard example

Table 29-62 HardDetail

Parameter	Type	Description
alo_name	String	Alias
id	Integer	Reason ID
reason	String	Reason description
suggestion	String	Handling suggestion

Table 29-63 LabelAttribute

Parameter	Type	Description
default_value	String	Default value of a label attribute

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **text**: Select a text label. • **select**: Select from the drop-down list.
values	Array of **LabelAttributeValue** objects	List of label attribute values

Table 29-64 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID
value	String	Label attribute value

Table 29-65 LabelProperty

Parameter	Type	Description
@modelarts:color	String	Label color, which is a hexadecimal code of a color, for example, **#FFFFF0**. 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: • **bndbox**: rectangle • **polygon**: polygon • **circle**: circle • **line**: straight line • **dashed**: dashed line • **point**: point • **polyline**: polyline

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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_spliting_enable" : false
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code

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

Error Code

For details, see **Error Codes**.

29.1.7 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 29-66 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 29-67 Query Parameters

Parameter	Mandatory	Type	Description
end_time	Yes	Long	End time of the monitoring information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-68 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" : { }
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  }
}
```

Status Codes

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

Error Codes

See **Error Codes**.

29.1.8 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 29-69 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-70 Query Parameters

Parameter	Mandatory	Type	Description
status	No	Integer	Status of a dataset version. Options: • **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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-71 Response body parameters

Parameter	Type	Description
total_number	Integer	Total number of dataset versions.
versions	Array of **DatasetVersion** objects	Dataset version list.

Table 29-72 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: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **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: • **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: • **true**: Parse the subsample number. • **false**: Do not parse the subsample number. (Default value)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
include_dataset_data	Boolean	Whether to include the source data of a dataset during release. Options: • **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: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
processor_task_status	Integer	Status of a preprocessing task such as rotation and cropping. The options are as follows: • 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: • **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: • **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: • __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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
start_processor_task	Boolean	Whether to start a data analysis task during release. Options: • **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: • **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: • **Default**: default format • **CarbonData**: CarbonData (supported only by table datasets) • **CSV**: CSV
version_id	String	Dataset version ID.
version_name	String	Dataset version name.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-73 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: • **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 29-74 LabelAttribute

Parameter	Type	Description
default_value	String	Default value of a label attribute.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **text**: text • **select**: single-choice drop-down list
values	Array of **LabelAttributeValue** objects	List of label attribute values.

Table 29-75 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

Table 29-76 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: **#FFFFF0**.
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: • **bndbox**: rectangle • **polygon**: polygon • **circle**: circle • **line**: straight line • **dashed**: dotted line • **point**: point • **polyline**: polyline

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "version_format" : "Default",
    "previous_version_id" : "vlGvUqOcxxGPIB0ugeE",
    "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" : "vlGvUqOcxxGPIB0ugeE",
    "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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.1.9 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 29-77 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 29-78 Request body parameters

Parameter	Mandatory	Type	Description
clear_hard_property	No	Boolean	Whether to clear hard example properties. Options: • **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: !<>=&"'

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
export_images	No	Boolean	Whether to export images to the version output directory during release. Options: • **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: • **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: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 201

Table 29-79 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.1.10 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 29-80 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 29-81 Response body parameters

Parameter	Type	Description
add_sample_count	Integer	Number of added samples.
analysis_cache_path	String	Cache path for feature analysis.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
analysis_status	Integer	Status of a feature analysis task. Options: • **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: • **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: • **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: • **true**: The data has been validated. • **false**: The data has not been validated.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **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: • **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: • **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: • **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).

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • 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: • **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: • **true**: Rotate the image. • **false**: Do not rotate the image. (Default value)
rotate_path	String	Path for storing the rotated file.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sample_state	String	Sample status. The options are as follows: • __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
start_processor_task	Boolean	Whether to start a data analysis task during release. Options: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **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 29-82 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	Integer	Label type. Options: • **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 29-83 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: • **text**: text • **select**: single-choice drop-down list
values	Array of **LabelAttributeValue** objects	List of label attribute values.

Table 29-84 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-85 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: **#FFFFF0**.
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: • **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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "version_format" : "Default",
  "previous_version_id" : "vlGvUqOcxxGPIB0ugeE",
  "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**.

29.1.11 Deleting a Dataset Labeling Version

Function

This API is used to delete a dataset labeling version.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-86 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

29.1.12 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 29-87 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 29-88 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
label_type	No	Integer	**Labeling Type**: Options: • **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: • **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: • **asc**: ascending order • **desc**: descending order (default value)
preview	No	Boolean	Whether preview is supported. Options: • **true**: Preview is supported. • **false**: Preview is not supported.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **__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: • **0**: image • **1**: text • **2**: audio • **4**: table • **6**: video • **9**: custom format (default value)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-89 Response body parameters

Parameter	Type	Description
sample_count	Integer	Number of samples
samples	Array of **DescribeSampleResp** objects	List of samples

Table 29-90 DescribeSampleResp

Parameter	Type	Description
check_accept	Boolean	Whether the acceptance is passed, which is used for team labeling. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sample_status	String	Sample status. Options: • **__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: • **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 29-91 HardDetail

Parameter	Type	Description
alo_name	String	Alias

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
id	Integer	Reason ID
reason	String	Reason description
suggestion	String	Handling suggestion

Table 29-92 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: • **0**: marker • **1**: reviewer • **2**: team manager • **3**: dataset owner
status	Integer	Current login status of a labeled member. Options: • **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 29-93 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: • **human**: manual labeling • **auto**: auto labeling

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-94 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: • 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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	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*]**. *x* indicates the horizontal coordinate, and *y* indicates the vertical coordinate (both *x* and *y* are greater than or equal to 0). The format of each shape is as follows: • **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	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard	String	Whether the sample is labeled as a hard example, which is a default attribute. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	String	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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:to	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 29-95 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: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	ID of a hard example reason, which is a default attribute. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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" : {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "@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**.

29.1.13 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 29-96 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 29-97 Request body parameters

Parameter	Mandatory	Type	Description
final_annotation	No	Boolean	Whether to directly import to the final result. Options: • **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 29-98 LabelFormat

Parameter	Mandatory	Type	Description
label_type	No	String	Label type of text classification. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-99 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 (!<>=&"').

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
sample_type	No	Integer	Sample type. Options: • **0**: image • **1**: text • **2**: speech • **4**: table • **6**: video • **9**: custom format

Table 29-100 DataSource

Parameter	Mandatory	Type	Description
data_path	No	String	Data source path.
data_type	No	Integer	Data type. Options: • **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: • **true**: The first row in the file is the column name. • **false**: The first row in the file is not the column name.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-101 SchemaMap

Parameter	Mandatory	Type	Description
dest_name	No	String	Name of the destination column.
src_name	No	String	Name of the source column.

Table 29-102 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
vpc_id	No	String	ID of the VPC where an MRS cluster resides.

Table 29-103 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: • **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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-104 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: • 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.)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@modelarts:feature	No	Object	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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: • **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]**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	String	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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	Object shape, which is a default attribute dedicated to the object detection label and is left empty by default. Options: • **bndbox**: rectangle • **polygon**: polygon • **circle**: circle • **line**: straight line • **dashed**: dotted line • **point**: point • **polyline**: polyline
@modelarts: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:to	No	String	ID of the tail entity in the triplet relationship label, which is a default attribute dedicated to the triplet relationship label.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-105 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: • **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]**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	Array of integers	ID of a hard sample reason, which is a default attribute. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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 29-106 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: • **true**: successful • **false**: failed

Table 29-107 UploadSampleResp

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
info	String	Description.
name	String	Name of a sample file.
success	Boolean	Whether the operation is successful. Options: • **true**: successful • **false**: failed

Example Requests

Adding Samples in Batches

```
{
  "samples" : [ {
    "name" : "2.jpg",
    "data" : "/9j/4AAQSkZJRgABAQAAAQABAAD/
2wBDAAgGBgcGBQgHBwcJCQgKDBQNDAsLDBkSEw8UHRofHh0aHBwgJC4nICIsIxwcKDcpLDAxNDQ0Hyc5PT
gyPC4zNDL/
2wBDAQkJCQwLDBgNDRgyIRwhMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjL/
wAARCAA1AJUDASIAAhEBAxEB/8QAHwAAAQUBAQEBAQEAAAAAAAAAAAECAwQFBgcICQoL/
8QAtRAAAgEDAwIEAwUFBAQAAAF9AQIDAAQRBRIhMUEGE1FhByJxFDKBkaEII0KxwRVS0fAkM2JyggkKFhcYG
RolJicoKSo0NTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZWZnaGlqc3R1dnd4eXqDhIWGh4iJipKTlJWWl5iZmq
KjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uHi4+Tl5ufo6erx8vP09fb3+Pn6/8QAHwEAAwEBAQE
BAQEBAQAAAAAAAAECAwQFBgcICQoL"
  } ]
}
```

Example Responses

Status code: 200

OK

```
{
  "success" : true,
  "results" : [ {
    "success" : true,
    "name" : "/test-obs/classify/input/animals/2.jpg",
    "info" : "960585877c92d63911ba555ab3129d36"
  } ]
}
```

Status Codes

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

29.1.14 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 29-108 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 29-109 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: • **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 29-110 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: • **true**: The operation is successful. • **false**: The operation is failed.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-111 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Check whether the operation is successful. Options: • **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**.

29.1.15 Obtaining Details About a Sample

Function

Obtain details about a sample.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-112 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 29-113 Query parameters

Parameter	Mandatory	Type	Description
locale	No	String	Language Options: • **zh-cn**: Chinese • **en-us**: English (default value)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
sample_state	No	String	Sample status. Options: • **__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**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-114 Response body parameters

Parameter	Type	Description
check_accept	Boolean	Whether the acceptance is passed, which is used for team labeling. Options: • **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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sample_status	String	Sample status. Options: • **__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: • **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 29-115 HardDetail

Parameter	Type	Description
alo_name	String	Alias

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
id	Integer	Reason ID
reason	String	Reason description
suggestion	String	Handling suggestion

Table 29-116 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: • **0**: marker • **1**: reviewer • **2**: team manager • **3**: dataset owner
status	Integer	Current login status of a labeled member. Options: • **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 29-117 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: • **human**: manual labeling • **auto**: auto labeling

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-118 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: • 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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	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*]**. *x* indicates the horizontal coordinate, and *y* indicates the vertical coordinate (both *x* and *y* are greater than or equal to 0). The format of each shape is as follows: • **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	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard	String	Whether the sample is labeled as a hard example, which is a default attribute. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	String	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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:to	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 29-119 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: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	ID of a hard example reason, which is a default attribute. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd. 2023

Status Code	Description
403	Forbidden
404	Not Found

Error Code

For details, see **Error Codes**.

29.1.16 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 29-120 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-121 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 29-122 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: • **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 29-123 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **text**: text • **select**: single-choice drop-down list
values	Array of **LabelAttributeValue** objects	List of label attribute values.

Table 29-124 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

Table 29-125 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: **#FFFFF0**.
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: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

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

29.1.17 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 29-126 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 29-127 Query parameters

Parameter	Mandatory	Type	Description
label_name	No	String	Label name

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
label_type	No	Integer	**Labeling Type**: Options: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
sample_state	No	String	Sample status. Options: • **__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	Multi-dimensional search criteria after URL encoding. The relationship between multiple search conditions is AND.

Request Parameters

None

Response Parameters

Status code: **200**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-128 Response body parameters

Parameter	Type	Description
sample_count	Integer	Number of samples
samples	Array of **DescribeSampleResp** objects	List of samples

Table 29-129 DescribeSampleResp

Parameter	Type	Description
check_accept	Boolean	Whether the acceptance is passed, which is used for team labeling. Options: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **__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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
worker_id	String	ID of a labeling team member, which is used for team labeling.

Table 29-130 HardDetail

Parameter	Type	Description
alo_name	String	Alias
id	Integer	Reason ID
reason	String	Reason description
suggestion	String	Handling suggestion

Table 29-131 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: • **0**: marker • **1**: reviewer • **2**: team manager • **3**: dataset owner
status	Integer	Current login status of a labeled member. Options: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-132 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: • **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: • **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 29-133 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)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@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: • 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.)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:feature	Object	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*]**. *x* indicates the horizontal coordinate, and *y* indicates the vertical coordinate (both *x* and *y* are greater than or equal to 0). The format of each shape is as follows: • **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	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label
@modelarts:hard	String	Whether the sample is labeled as a hard example, which is a default attribute. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	String	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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:to	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 29-134 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: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	ID of a hard example reason, which is a default attribute. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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=gQpjbi1ub3J0aC03jKj8N6gtS4VsdTTW3QFoHMtpMoFLtCa6W_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" : "afdda13895bc66322ffbf36ae833bcf0",
      "role" : 0
    } ]
  }, {
    "sample_id" : "2971815bbb11a462161b48dddf19344f",
    "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=gQpjbi1ub3J0aC03jKj8N6gtS4VsdTTW3QFoHMtpMoFLtC...",
    "metadata" : {
      "@modelarts:import_origin" : 0,
      "@modelarts:size" : [ 1242, 375, 3 ]
    },
    "sample_time" : 1598263639997,
    "sample_status" : "UN_ANNOTATION",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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**.

29.1.18 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 29-135 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
sample_id	Yes	String	Sample ID
workforce_task_id	Yes	String	Labeling task ID

Table 29-136 Query parameters

Parameter	Mandatory	Type	Description
locale	No	String	Language Options: • **zh-cn**: Chinese • **en-us**: English (default value)
sample_state	No	String	Sample status. Options: • **__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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

None

Response Parameters

Status code: **200**

Table 29-137 Response body parameters

Parameter	Type	Description
check_accept	Boolean	Whether the acceptance is passed, which is used for team labeling. Options: • **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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sample_name	String	Sample name
sample_size	Long	Sample size or text length, in bytes
sample_status	String	Sample status. Options: • **__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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-138 HardDetail

Parameter	Type	Description
alo_name	String	Alias
id	Integer	Reason ID
reason	String	Reason description
suggestion	String	Handling suggestion

Table 29-139 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: • **0**: marker • **1**: reviewer • **2**: team manager • **3**: dataset owner
status	Integer	Current login status of a labeled member. Options: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-140 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: • **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: • **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 29-141 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)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@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: • 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.)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:feature	Object	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*]**. *x* indicates the horizontal coordinate, and *y* indicates the vertical coordinate (both *x* and *y* are greater than or equal to 0). The format of each shape is as follows: • **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	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label
@modelarts:hard	String	Whether the sample is labeled as a hard example, which is a default attribute. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	String	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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:to	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 29-142 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: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	ID of a hard example reason, which is a default attribute. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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=gQpjbi1ub3J0aC03jELficNKUP87aSTIhvsHQAvImcyVbXlYTrU2XJIc28F7kiXanJ3TyJV39iXl0yi5mzQ...",
  "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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
403	Forbidden
404	Not Found

Error Code

For details, see **Error Codes**.

29.1.19 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 29-143 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 29-144 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-145 Response body parameters

Parameter	Type	Description
labels	Array of **Label** objects	Label list.
total_number	Integer	Number of labels

Table 29-146 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	Integer	Label type. Options: • **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 29-147 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: • **text**: text • **select**: single-choice drop-down list
values	Array of **LabelAttributeValue** objects	List of label attribute values.

Table 29-148 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-149 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: **#FFFFF0**.
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: • **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" : [ {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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**.

29.1.20 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 29-150 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-151 Request body parameters

Parameter	Mandatory	Type	Description
labels	No	Array of **Label** objects	List of labels to be created.

Table 29-152 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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-153 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: • **text**: text • **select**: single-choice drop-down list
values	No	Array of **LabelAttributeValue** objects	List of label attribute values.

Table 29-154 LabelAttributeValue

Parameter	Mandatory	Type	Description
id	No	String	Label attribute value ID.
value	No	String	Label attribute value.

Table 29-155 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: **#FFFFF0**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-156 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **true**: The operation is successful. • **false**: The operation is failed.

Table 29-157 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Check whether the operation is successful. Options: • **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
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

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

Error Codes

See **Error Codes**.

29.1.21 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 29-158 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 29-159 Request body parameters

Parameter	Mandatory	Type	Description
labels	No	Array of **Label** objects	List of labels to be updated.

Table 29-160 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: • **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 29-161 LabelAttribute

Parameter	Mandatory	Type	Description
default_value	No	String	Default value of a label attribute.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **text**: text • **select**: single-choice drop-down list
values	No	Array of **LabelAttributeValue** objects	List of label attribute values.

Table 29-162 LabelAttributeValue

Parameter	Mandatory	Type	Description
id	No	String	Label attribute value ID.
value	No	String	Label attribute value.

Table 29-163 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: **#FFFFF0**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-164 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **true**: successful • **false**: failed

Table 29-165 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Check whether the operation is successful. Options: • **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
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

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

Error Codes

See **Error Codes**.

29.1.22 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 29-166 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-167 Query Parameters

Parameter	Mandatory	Type	Description
delete_policy	No	Integer	Whether to delete a label and samples containing the label. Options: • **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 29-168 Request body parameters

Parameter	Mandatory	Type	Description
labels	No	Array of **Label** objects	List of labels to be deleted.

Table 29-169 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
type	No	Integer	Label type. Options: • **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 29-170 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: • **text**: text • **select**: single-choice drop-down list
values	No	Array of **LabelAttributeValue** objects	List of label attribute values.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-171 LabelAttributeValue

Parameter	Mandatory	Type	Description
id	No	String	Label attribute value ID.
value	No	String	Label attribute value.

Table 29-172 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: **#FFFFF0**.
@modelarts:default_shape	No	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-173 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: • **true**: The operation is successful. • **false**: The operation is failed.

Table 29-174 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Check whether the operation is successful. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
  "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**.

29.1.23 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 29-175 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-176 Query Parameters

Parameter	Mandatory	Type	Description
label_type	No	Integer	Label type. Options: • **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 29-177 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: **#FFFFF0**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-178 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
error_msg	String	Error message.
success	Boolean	Whether the operation is successful. Options: • **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**.

29.1.24 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-179 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 29-180 Query Parameters

Parameter	Mandatory	Type	Description
delete_source	No	Boolean	Whether to delete the sample source files. Options: • **true**: Delete the sample source files. • **false**: Do not delete the sample source files. (Default value)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
label_type	No	Integer	Label type. Options: • **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 29-181 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: • **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
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

29.1.25 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 29-182 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 29-183 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 29-184 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: • **0**: image • **1**: text • **2**: speech • **4**: table • **6**: video • **9**: custom format
sample_usage	No	String	Sample usage. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-185 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: • **human**: manual labeling • **auto**: automatic labeling
id	No	String	Label ID.
name	No	String	Label name.
property	No	**SampleLabelProperty** 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: • **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 29-186 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).

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@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: • 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.)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@modelarts:feature	No	Object	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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: • **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]**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	String	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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	Object shape, which is a default attribute dedicated to the object detection label and is left empty by default. Options: • **bndbox**: rectangle • **polygon**: polygon • **circle**: circle • **line**: straight line • **dashed**: dotted line • **point**: point • **polyline**: polyline
@modelarts: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:to	No	String	ID of the tail entity in the triplet relationship label, which is a default attribute dedicated to the triplet relationship label.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-187 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: • **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]**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	Array of integers	ID of a hard sample reason, which is a default attribute. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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 29-188 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: • **true**: successful • **false**: failed

Table 29-189 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
success	Boolean	Check whether the operation is successful. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.1.26 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 29-190 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 29-191 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-192 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 29-193 WorkforceTask

Parameter	Type	Description
auto_sync_dataset	Boolean	Whether to automatically synchronize the result of a team labeling task to the dataset. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	Integer	Status of a team labeling task. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
synchronize_auto_labeling_data	Boolean	Whether to synchronize the auto labeling result of a team labeling task. Options: • **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: • **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 29-194 WorkforceSamplingTaskDesc

Parameter	Type	Description
action	Integer	Acceptance operations. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-195 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-196 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: • **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 29-197 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: • **text**: text • **select**: single-choice drop-down list

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
values	Array of **LabelAttributeValue** objects	List of label attribute values.

Table 29-198 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

Table 29-199 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: **#FFFFF0**.
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@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 29-200 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-201 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: • **OR**: OR operation • **AND**: AND operation

Table 29-202 SearchLabel

Parameter	Type	Description
name	String	Label name.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
op	String	Operation type between multiple attributes. Options: • **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: • **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 29-203 SearchProp

Parameter	Type	Description
op	String	Relationship between attribute values. Options: • **AND**: AND relationship • **OR**: OR relationship
props	Map<String,Array<String>>	Search criteria of an attribute. Multiple search criteria can be set.

Table 29-204 SampleStats

Parameter	Type	Description
accepted_sample_count	Integer	Number of samples accepted by the owner.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-205 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 29-206 WorkforcesConfig

Parameter	Type	Description
agency	String	Administrator
workforces	Array of **WorkforceConfig** objects	List of teams that execute labeling tasks.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-207 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 29-208 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: • **0**: labeling personnel • **1**: reviewer • **2**: team administrator • **3**: dataset owner
status	Integer	Current login status of a labeling team member. Options: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
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
        } ]
      } ]
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  },
  "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**.

29.1.27 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-209 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 29-210 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: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
synchronize_auto_labeling_data	No	Boolean	Whether to synchronize the auto labeling result of a team labeling task. Options: • **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 29-211 WorkforcesConfig

Parameter	Mandatory	Type	Description
agency	No	String	Administrator
workforces	No	Array of **WorkforceConfig** objects	List of teams that execute labeling tasks.

Table 29-212 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: !<>=&"'

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-213 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: • **0**: labeling personnel • **1**: reviewer • **2**: team administrator • **3**: dataset owner
status	No	Integer	Current login status of a labeling team member. Options: • **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 29-214 Response body parameters

Parameter	Type	Description
task_id	String	ID of a team labeling task.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

29.1.28 Querying Details About a Team Labeling Task

Function

This API is used to query the details about a team labeling task.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-215 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 29-216 Query Parameters

Parameter	Mandatory	Type	Description
label_stats	No	Boolean	Whether to return label statistics. Options: • **true**: Return label statistics. • **false**: Do not return label statistics. (Default value)
sample_stats	No	Boolean	Whether to return sample statistics. Options: • **true**: Return sample statistics. • **false**: Do not return sample statistics. (Default value)
workforce_stats	No	Boolean	Whether to return personnel statistics. Options: • **true**: Return personnel statistics. • **false**: Do not return personnel statistics. (Default value)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

None

Response Parameters

Status code: 200

Table 29-217 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	Integer	Status of a team labeling task. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
synchronize_auto_labeling_data	Boolean	Whether to synchronize the auto labeling result of a team labeling task. Options: • **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: • **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 29-218 WorkforceSamplingTaskDesc

Parameter	Type	Description
action	Integer	Acceptance operations. Options: • **0**: Pass all samples. • **1**: Reject all samples. • **4**: Pass single-accepted samples and unaccepted samples. • **5**: Reject single-rejected samples and unaccepted samples.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-219 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-220 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: • **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 29-221 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: • **text**: text • **select**: single-choice drop-down list

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
values	Array of **LabelAttributeValue** objects	List of label attribute values.

Table 29-222 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

Table 29-223 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: **#FFFFF0**.
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@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 29-224 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-225 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: • **OR**: OR operation • **AND**: AND operation

Table 29-226 SearchLabel

Parameter	Type	Description
name	String	Label name.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
op	String	Operation type between multiple attributes. Options: • **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: • **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 29-227 SearchProp

Parameter	Type	Description
op	String	Relationship between attribute values. Options: • **AND**: AND relationship • **OR**: OR relationship
props	Map<String,Array<String>>	Search criteria of an attribute. Multiple search criteria can be set.

Table 29-228 WorkerTask

Parameter	Type	Description
create_time	Long	Time when a labeling team member's task is created.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-229 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 29-230 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 29-231 WorkforcesConfig

Parameter	Type	Description
agency	String	Administrator

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
workforces	Array of **WorkforceConfig** objects	List of teams that execute labeling tasks.

Table 29-232 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 29-233 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: • **0**: labeling personnel • **1**: reviewer • **2**: team administrator • **3**: dataset owner
status	Integer	Current login status of a labeling team member. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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" : "WxCREuCkBSAlQr9xrde",
  "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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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**.

29.1.29 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 29-234 Path Parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-235 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 29-236 WorkforcesConfig

Parameter	Mandatory	Type	Description
agency	No	String	Administrator
workforces	No	Array of **WorkforceConfig** objects	List of teams that execute labeling tasks.

Table 29-237 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-238 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: • **0**: labeling personnel • **1**: reviewer • **2**: team administrator • **3**: dataset owner
status	No	Integer	Current login status of a labeling team member. Options: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

29.1.30 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}

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-239 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 29-240 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 29-241 WorkforcesConfig

Parameter	Mandatory	Type	Description
agency	No	String	Administrator
workforces	No	Array of **WorkforceConfig** objects	List of teams that execute labeling tasks.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-242 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 29-243 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: • **0**: labeling personnel • **1**: reviewer • **2**: team administrator • **3**: dataset owner
status	No	Integer	Current login status of a labeling team member. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.1.31 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 29-244 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

```
{}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

Status Code	Description
204	No Content
401	Unauthorized
403	Forbidden

Error Codes

See **Error Codes**.

29.1.32 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 29-245 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 29-246 Request body parameters

Parameter	Mandatory	Type	Description
sampling_num	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 29-247 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See **Error Codes**.

29.1.33 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 29-248 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-249 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 29-250 Response body parameters

Parameter	Type	Description
checking_stats	**CheckTaskStats** object	Real-time acceptance statistics.
total_stats	**CheckTaskStats** object	Historical statistics.

Table 29-251 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.1.34 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 29-252 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 29-253 Query parameters

Parameter	Mandatory	Type	Description
locale	Yes	String	Language . Options: • **zh-cn**: Chinese • **en-us**: English (default value)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 29-254 Request body parameters

Parameter	Mandatory	Type	Description
action	Yes	Integer	Acceptance action. Options: • **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: • **true**: The labeled data is overwritten. • **false**: The labeled data is not overwritten. (default value)

Response Parameters

Status code: **200**

Table 29-255 Response body parameters

Parameter	Type	Description
sample_count	Integer	Total number of accepted samples
samples	Array of **DescribeSampleResp** objects	List of accepted samples

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-256 DescribeSampleResp

Parameter	Type	Description
check_accept	Boolean	Whether the acceptance is passed, which is used for team labeling. Options: • **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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sample_status	String	Sample status. Options: • **__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: • **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 29-257 HardDetail

Parameter	Type	Description
alo_name	String	Alias

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
id	Integer	Reason ID
reason	String	Reason description
suggestion	String	Handling suggestion

Table 29-258 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: • **0**: marker • **1**: reviewer • **2**: team manager • **3**: dataset owner
status	Integer	Current login status of a labeled member. Options: • **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 29-259 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: • **human**: manual labeling • **auto**: auto labeling

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-260 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: • 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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	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*]**. *x* indicates the horizontal coordinate, and *y* indicates the vertical coordinate (both *x* and *y* are greater than or equal to 0). The format of each shape is as follows: • **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	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard	String	Whether the sample is labeled as a hard example, which is a default attribute. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	String	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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:to	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 29-261 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: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	ID of a hard example reason, which is a default attribute. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

29.1.35 Querying Details About Team Labeling Task Statistics

Function

This API is used to query details about team labeling task statistics.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-262 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-263 Query Parameters

Parameter	Mandatory	Type	Description
sample_state	No	String	Statistics on the specified sample state. The options are as follows: • __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

Request Parameters

None

Response Parameters

Status code: 200

Table 29-264 Response body parameters

Parameter	Type	Description
data_path	String	Path for storing data of a dataset.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
data_spliting_enable	Boolean	Whether the dataset can be split into training set and validation set based on the sample labeling statistics. Options: • **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 29-265 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	Integer	Label type. Options: • **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 29-266 PairOfintAndHardDetail

Parameter	Type	Description
key	Integer	Number of times that a hard example reason occurs.
value	**HardDetail** object	Reason for a hard example.

Table 29-267 HardDetail

Parameter	Type	Description
alo_name	String	Alias.
id	Integer	Reason ID.
reason	String	Reason description.
suggestion	String	Handling suggestion.

Table 29-268 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **text**: text • **select**: single-choice drop-down list
values	Array of **LabelAttributeValue** objects	List of label attribute values.

Table 29-269 LabelAttributeValue

Parameter	Type	Description
id	String	Label attribute value ID.
value	String	Label attribute value.

Table 29-270 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: **#FFFFF0**.
@modelarts:default_shape	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: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 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" : { },
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "data_spliting_enable" : false
}
```

Status Codes

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

Error Codes

See **Error Codes**.

29.1.36 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 29-271 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

None

Response Parameters

Status code: 200

Table 29-272 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

29.1.37 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 29-273 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 29-274 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: • **asc**: ascending order • **desc**: descending order (default value)
search_content	No	String	Fuzzy search keyword. By default, this parameter is left blank.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
sort_by	No	String	Sorting mode of the query. Options: • **create_time**: Sort by creation time. (Default value) • **workforce_task_name**: Sort by task name.

Request Parameters

None

Response Parameters

Status code: 200

Table 29-275 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 29-276 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-277 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
 }, {
   "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**.

29.1.38 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

URI

POST /v2/{project_id}/datasets/{dataset_id}/workforce-tasks/{workforce_task_id}/acceptance/batch-comment

Table 29-278 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 29-279 Request body parameters

Parameter	Mandatory	Type	Description
comments	Yes	Array of **SampleComment** objects	Review comment list.

Table 29-280 SampleComment

Parameter	Mandatory	Type	Description
accept	Yes	Boolean	Whether the submitted sample review comments are passed. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.1.39 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 29-281 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 29-282 Request body parameters

Parameter	Mandatory	Type	Description
comments	No	Array of **SampleComment** objects	Review comment list.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-283 SampleComment

Parameter	Mandatory	Type	Description
accept	Yes	Boolean	Whether the submitted sample review comments are passed. Options: • **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

```
{ }
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

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

Error Codes

See **Error Codes**.

29.1.40 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 29-284 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 29-285 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 29-286 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: • **0**: image • **1**: text • **2**: speech • **4**: table • **6**: video • **9**: custom format
sample_usage	No	String	Sample usage. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-287 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: • **human**: manual labeling • **auto**: automatic labeling
id	No	String	Label ID.
name	No	String	Label name.
property	No	**SampleLabelProperty** 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: • **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 29-288 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).

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@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: • 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.)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@modelarts:feature	No	Object	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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: • **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]**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	String	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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	Object shape, which is a default attribute dedicated to the object detection label and is left empty by default. Options: • **bndbox**: rectangle • **polygon**: polygon • **circle**: circle • **line**: straight line • **dashed**: dotted line • **point**: point • **polyline**: polyline
@modelarts: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:to	No	String	ID of the tail entity in the triplet relationship label, which is a default attribute dedicated to the triplet relationship label.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-289 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: • **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]**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	Array of integers	ID of a hard sample reason, which is a default attribute. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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 29-290 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: • **true**: successful • **false**: failed

Table 29-291 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
success	Boolean	Check whether the operation is successful. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.1.41 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 29-292 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 29-293 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: • **asc**: ascending order • **desc**: descending order (default value)
search_content	No	String	Fuzzy search keyword. By default, this parameter is left blank.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
sort_by	No	String	Sorting mode of the query. Options: • **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 29-294 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 29-295 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

29.1.42 Creating a Labeling Team

Function

This API is used to create a labeling team.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-296 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 29-297 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 29-298 Response body parameters

Parameter	Type	Description
workforce_id	String	ID of a labeling team.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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" : "ZUH8gqkjuaib8pxkDdz"
}
```

Status Codes

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

Error Codes

See **Error Codes**.

29.1.43 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}

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-299 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 29-300 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" : "gyb7IaAvkLc5IhEY2dv",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "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**.

29.1.44 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 29-301 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 29-302 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

29.1.45 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 29-303 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 29-304 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
success	Boolean	Check whether the operation is successful. Options: • **true**: The operation is successful. • **false**: The operation is failed.

Table 29-305 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Check whether the operation is successful. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.1.46 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 29-306 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 29-307 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 29-308 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **true**: The operation is successful. • **false**: The operation is failed.

Table 29-309 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Check whether the operation is successful. Options: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
403	Forbidden
404	Not Found

Error Codes

See **Error Codes**.

29.1.47 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 29-310 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 29-311 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
order	No	String	Sorting sequence of the query. Options: • **asc**: ascending order • **desc**: descending order (default value)
role	No	Integer	Filtering query based on the member role. Options: • **0**: labeling personnel (default value) • **1**: reviewer • **2**: team administrator
sort_by	No	String	Sorting mode of the query. Options: • **create_time**: Sort by creation time. (Default value) • **email**: Sort by email.

Request Parameters

None

Response Parameters

Status code: 200

Table 29-312 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 29-313 Worker

Parameter	Type	Description
create_time	Long	Creation time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **0**: labeling personnel • **1**: reviewer • **2**: team administrator • **3**: dataset owner
status	Integer	Current login status of a labeling team member. Options: • **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" : "feSUo5NUlUnQAQNNTiS",
    "status" : 0,
    "role" : 2,
    "description" : "",
    "create_time" : 1595927749772,
    "update_time" : 1595927749772
  }, {
    "email" : "xxx@xxx.com",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "worker_id" : "27906df1d06c0827b7c24f761d618541",
    "workforce_id" : "XiL5RcHmxyIt3aYIOtI",
    "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**.

29.1.48 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 29-314 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-315 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: • **asc**: ascending order • **desc**: descending order (default value)
sort_by	No	String	Sorting mode of the query. Options: • **create_time**: Sort by creation time. (Default value) • **email**: Sort by email.

Request Parameters

None

Response Parameters

Status code: 200

Table 29-316 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 29-317 Worker

Parameter	Type	Description
create_time	Long	Creation time.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **0**: labeling personnel • **1**: reviewer • **2**: team administrator • **3**: dataset owner
status	Integer	Current login status of a labeling team member. Options: • **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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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**.

29.1.49 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-318 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 29-319 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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{}
```

Status Codes

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

Error Codes

See **Error Codes**.

29.1.50 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 29-320 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 29-321 Request body parameters

Parameter	Mandatory	Type	Description
workers	Yes	Array of strings	Team member ID list.

Response Parameters

Status code: 200

Table 29-322 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: • **true**: The operation is successful. • **false**: The operation is failed.

Table 29-323 BatchResponse

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Check whether the operation is successful. Options: • **true**: The operation is successful. • **false**: The operation is failed.

Example Requests

Deleting Labeling Team Members in Batches

```
{
  "workers" : [ "89d4ae38431b8905449821605abdc3a9", "a2abd3f27b4e92c593c15282f8b6bd29" ]
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

29.1.51 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}

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-324 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 29-325 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: • 0: annotator • 1: reviewer • 2: team manager • 3: dataset owner
status	Integer	Current login status of a labeling team member. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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" : "gyb7IaAvkLc5IhEY2dv",
  "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**.

29.1.52 Updating a Labeling Team Member

Function

This API is used to update a labeling team member.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-326 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 29-327 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: • **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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "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**.

29.1.53 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 29-328 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

29.1.54 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

URI

GET /v2/{project_id}/datasets/{dataset_id}/import-tasks

Table 29-329 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 29-330 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 29-331 Response body parameters

Parameter	Type	Description
import_tasks	Array of **ImportTaskStatusResp** objects	List of import tasks.
total_count	Integer	Number of import tasks.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-332 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. • 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	Status of an import task. Options: • **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 29-333 DataSource

Parameter	Type	Description
data_path	String	Data source path.
data_type	Integer	Data type. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **true**: The first row in the file is the column name. • **false**: The first row in the file is not the column name.

Table 29-334 SchemaMap

Parameter	Type	Description
dest_name	String	Name of the destination column.
src_name	String	Name of the source column.

Table 29-335 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-336 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_RHJ1zOkIoI3Nzwxj8nh",
    "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
  } ]
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

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

Error Codes

See **Error Codes**.

29.1.55 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 29-337 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 29-338 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: • **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: • **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: • **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: • **obs**: OBS bucket (default value) • **dws**: GaussDB(DWS) • **dli**: DLI • **rds**: RDS • **mrs**: MRS • **inference**: Inference service

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
import_path	Yes	String	OBS path or **manifest** path to be imported. • 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: • **true**: Import samples. (Default value) • **false**: Do not import samples.
import_type	No	String	Import mode. Options: • **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: • **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 29-339 DataSource

Parameter	Mandatory	Type	Description
data_path	No	String	Data source path.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
data_type	No	Integer	Data type. Options: • **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: • **true**: The first row in the file is the column name. • **false**: The first row in the file is not the column name.

Table 29-340 SchemaMap

Parameter	Mandatory	Type	Description
dest_name	No	String	Name of the destination column.
src_name	No	String	Name of the source column.

Table 29-341 SourceInfo

Parameter	Mandatory	Type	Description
cluster_id	No	String	MRS cluster ID. You can log in to the MRS console to view the information.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
cluster_mode	No	String	Running mode of an MRS cluster. Options: • **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.
vpc_id	No	String	ID of the VPC where an MRS cluster resides.

Table 29-342 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-343 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: • **text**: text • **select**: single-choice drop-down list
values	No	Array of **LabelAttributeValue** objects	List of label attribute values.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-344 LabelAttributeValue

Parameter	Mandatory	Type	Description
id	No	String	Label attribute value ID.
value	No	String	Label attribute value.

Table 29-345 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: **#FFFFF0**.
@modelarts:default_shape	No	String	Default attribute: Default shape of an object detection label (dedicated attribute). By default, this parameter is left blank. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.

Table 29-346 LabelFormat

Parameter	Mandatory	Type	Description
label_type	No	String	Label type of text classification. Options: • **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: !@#$%^&*_=|?/':.;,

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-347 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"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

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

Error Codes

See **Error Codes**.

29.1.56 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 29-348 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 29-349 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. • 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
processor_task_status	Integer	Status of a preprocessing task.
status	String	Status of an import task. Options: • **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 29-350 DataSource

Parameter	Type	Description
data_path	String	Data source path.
data_type	Integer	Data type. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **true**: The first row in the file is the column name. • **false**: The first row in the file is not the column name.

Table 29-351 SchemaMap

Parameter	Type	Description
dest_name	String	Name of the destination column.
src_name	String	Name of the source column.

Table 29-352 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-353 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_RHJ1zOkIoI3Nzwxj8nh",
  "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
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

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

Error Codes

See **Error Codes**.

29.1.57 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 29-354 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-355 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: • **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 29-356 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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
export_type	Integer	Export type. Options: • **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: • **Default**: default format • **CarbonData**: CarbonData (supported only by table datasets) • **CSV**: CSV
version_id	String	Dataset version ID.

Table 29-357 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
export_type	Integer	Export type. Options: • **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: • **Default**: default format • **CarbonData**: CarbonData (supported only by table datasets) • **CSV**: CSV
version_id	String	Dataset version ID.

Table 29-358 ExportParams

Parameter	Type	Description
clear_hard_property	Boolean	Whether to clear hard example attributes. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
export_dest	String	Dataset export type. The options are as follows: • 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: • **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: • __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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-359 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-360 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: • **OR**: OR operation • **AND**: AND operation

Table 29-361 SearchLabel

Parameter	Type	Description
name	String	Label name.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
op	String	Operation type between multiple attributes. Options: • **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: • **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 29-362 SearchProp

Parameter	Type	Description
op	String	Relationship between attribute values. Options: • **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" : "SUCCESSED",
    "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" : "SUCCESSED",
    "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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.1.58 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 29-363 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 29-364 Request body parameters

Parameter	Mandatory	Type	Description
annotation_format	No	String	Labeling format. Options: • **VOC**: VOC • **COCO**: COCO
export_format	No	Integer	Format of the exported directory. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
export_type	No	Integer	Export type. Options: • **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: • __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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **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 29-365 ExportParams

Parameter	Mandatory	Type	Description
clear_hard_property	No	Boolean	Whether to clear hard example attributes. Options: • **true**: Clear hard example attributes. (Default value) • **false**: Do not clear hard example attributes.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • 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: • **true**: Allocate the training set and validation set. • **false**: Do not allocate the training set and validation set. (Default value)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
sample_state	No	String	Sample status. The options are as follows: • __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	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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-366 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-367 SearchLabels

Parameter	Mandatory	Type	Description
labels	No	Array of **SearchLabel** objects	List of label search criteria.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **OR**: OR operation • **AND**: AND operation

Table 29-368 SearchLabel

Parameter	Mandatory	Type	Description
name	No	String	Label name.
op	No	String	Operation type between multiple attributes. Options: • **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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-369 SearchProp

Parameter	Mandatory	Type	Description
op	No	String	Relationship between attribute values. Options: • **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 29-370 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: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
status	String	Task status. Options: • **INIT**: initialized • **RUNNING**: running • **FAILED**: failed • **SUCCESSED**: 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: • **Default**: default format • **CarbonData**: CarbonData (supported only by table datasets) • **CSV**: CSV
version_id	String	Dataset version ID.

Table 29-371 ExportParams

Parameter	Type	Description
clear_hard_property	Boolean	Whether to clear hard example attributes. Options: • **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: • 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • __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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-372 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: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-373 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: • **OR**: OR operation • **AND**: AND operation

Table 29-374 SearchLabel

Parameter	Type	Description
name	String	Label name.
op	String	Operation type between multiple attributes. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	Integer	Label type. Options: • **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 29-375 SearchProp

Parameter	Type	Description
op	String	Relationship between attribute values. Options: • **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/"
  }
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

29.1.59 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 29-376 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
task_id	Yes	String	ID of an export task.

Request Parameters

None

Response Parameters

Status code: 200

Table 29-377 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: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
version_format	String	Format of a dataset version. Options: • **Default**: default format • **CarbonData**: CarbonData (supported only by table datasets) • **CSV**: CSV
version_id	String	Dataset version ID.

Table 29-378 ExportParams

Parameter	Type	Description
clear_hard_property	Boolean	Whether to clear hard example attributes. Options: • **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: • 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: • **true**: Allocate the training set and validation set. • **false**: Do not allocate the training set and validation set. (Default value)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sample_state	String	Sample status. The options are as follows: • __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 29-379 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: • **0**: non-hard sample • **1**: hard sample
import_origin	String	Filter by data source.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-380 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: • **OR**: OR operation • **AND**: AND operation

Table 29-381 SearchLabel

Parameter	Type	Description
name	String	Label name.
op	String	Operation type between multiple attributes. Options: • **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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-382 SearchProp

Parameter	Type	Description
op	String	Relationship between attribute values. Options: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

29.1.60 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 29-383 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

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

Error Codes

See **Error Codes**.

29.1.61 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 29-384 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-385 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: • **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" : "gfghHSokody6AJigS5A"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Codes

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

Error Codes

See **Error Codes**.

29.1.62 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 29-386 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 29-387 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
label_type	No	Integer	Labeling type. Options: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

None

Response Parameters

Status code: **200**

Table 29-388 Response body parameters

Parameter	Type	Description
sample_count	Integer	Number of samples
samples	Array of **DescribeSampleResp** objects	List of samples

Table 29-389 DescribeSampleResp

Parameter	Type	Description
check_accept	Boolean	Whether the acceptance is passed, which is used for team labeling. Options: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
review_accept	Boolean	Whether to accept the review, which is used for team labeling. Options: • **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: • **__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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sample_type	Integer	Sample type. Options: • **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 29-390 HardDetail

Parameter	Type	Description
alo_name	String	Alias
id	Integer	Reason ID
reason	String	Reason description
suggestion	String	Handling suggestion

Table 29-391 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
role	Integer	Role. Options: • **0**: marker • **1**: reviewer • **2**: team manager • **3**: dataset owner
status	Integer	Current login status of a labeled member. Options: • **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 29-392 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	Integer	Label type. Options: • **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 29-393 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: • 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.)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:feature	Object	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*]**. *x* indicates the horizontal coordinate, and *y* indicates the vertical coordinate (both *x* and *y* are greater than or equal to 0). The format of each shape is as follows: • **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	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label
@modelarts:hard	String	Whether the sample is labeled as a hard example, which is a default attribute. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	String	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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:to	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 29-394 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: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	ID of a hard example reason, which is a default attribute. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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"
  } ]
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code

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

Error Code

For details, see **Error Codes**.

29.1.63 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 29-395 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Parameters

Status code: 200

Table 29-396 Response body parameters

Parameter	Type	Description
check_accept	Boolean	Whether the acceptance is passed, which is used for team labeling. Options: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sample_size	Long	Sample size or text length, in bytes.
sample_status	String	Sample status. The options are as follows: • __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
sample_time	Long	Sample time, when OBS is last modified.
sample_type	Integer	Sample type. Options: • **0**: image • **1**: text • **2**: speech • **4**: table • **6**: video • **9**: 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-397 HardDetail

Parameter	Type	Description
alo_name	String	Alias.
id	Integer	Reason ID.
reason	String	Reason description.
suggestion	String	Handling suggestion.

Table 29-398 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: • **0**: labeling personnel • **1**: reviewer • **2**: team administrator • **3**: dataset owner
status	Integer	Current login status of a labeling team member. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-399 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to distinguish whether a video is labeled manually or automatically. Options: • **human**: manual labeling • **auto**: automatic 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 range is [0,1].
type	Integer	Label type. Options: • **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 29-400 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).

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@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**. Example: • 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	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.)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:feature	Object	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: • **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	Sample labeled as a hard sample or not, which is a default attribute. Options: • **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]**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	String	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **bndbox**: rectangle • **polygon**: polygon • **circle**: circle • **line**: straight line • **dashed**: dotted 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:to	String	ID of the tail entity in the triplet relationship label, which is a default attribute dedicated to the triplet relationship label.

Table 29-401 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: • **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]**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	ID of a hard sample reason, which is a default attribute. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
401	Unauthorized
403	Forbidden
404	Not Found

Error Codes

See **Error Codes**.

29.1.64 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 29-402 URI parameters

Parameter	Mandatory	Type	Description
dataset_id	Yes	String	Dataset ID

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

Table 29-403 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: • **auto-label**: active learning • **pre-label**: pre-labeling • **auto-grouping**: auto grouping

Request Parameters

None

Response Parameters

Status code: **200**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-404 Response body parameters

Parameter	Type	Description
exist_running_deploy_task	Boolean	Whether the dataset contains running (including initialization) one-click model deployment. Options: • **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 29-405 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-406 SmartTaskConfig

Parameter	Type	Description
algorithm_type	String	Algorithm type for auto labeling. Options: • **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: • **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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
output_dir	String	Sample output path. The format is as follows: *Dataset output path*/*Dataset name*-*Dataset ID*/**annotation/auto-deploy/**. Example: **/test/work_1608083108676/dataset123-g6IO9qSu6hoxwCAirfm/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: • **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: • **Default** • **CarbonData** (supported only by table datasets) • **CSV**
worker_server_num	Integer	Number of workers in a training job

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-407 ExportParams

Parameter	Type	Description
clear_hard_property	Boolean	Whether to clear hard example attributes. Options: • **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: • **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: • **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)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sample_state	String	Sample status. Options: • **__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 29-408 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: • **0**: The label is not a hard example. • **1**: The label is a hard example.
import_origin	String	Filter by data source

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 *Start date*-*End date*. 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-409 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: • **OR**: OR operation • **AND**: AND operation

Table 29-410 SearchLabel

Parameter	Type	Description
name	String	Label name
op	String	Operation type between multiple attributes. Options: • **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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-411 SearchProp

Parameter	Type	Description
op	String	Relationship between attribute values. Options: • **AND**: AND relationship • **OR**: OR relationship
props	Map<String,Array<String>>	Search criteria of an attribute. Multiple search criteria can be set.

Table 29-412 Flavor

Parameter	Type	Description
code	String	Attribute code of a resource specification, which is used for task creating

Table 29-413 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 29-414 TrainingParameter

Parameter	Type	Description
label	String	Parameter name
value	String	Parameter value

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-415 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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-416 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **waiting**: The event is waiting. • **running**: The event is running. • **failed**: The event is failed. • **success**: The subtask is successfully executed.

Table 29-417 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 29-418 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sample_type	Integer	Sample type. Options: • **0**: image • **1**: text • **2**: audio • **4**: table • **6**: video • **9**: free format
sample_usage	String	Sample usage. Options: • **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 29-419 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	Integer	Label type. Options: • **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 29-420 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: • 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.)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:feature	Object	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***]**. *x* indicates the horizontal coordinate, and *y* indicates the vertical coordinate (both *x* and *y* are greater than or equal to 0). The format of each shape is as follows: • **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	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label
@modelarts:hard	String	Whether the sample is labeled as a hard example, which is a default attribute. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	String	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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:to	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 29-421 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: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	ID of a hard example reason, which is a default attribute. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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,
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.1.65 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 29-422 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Parameters

Table 29-423 Request body parameters

Parameter	Mandatory	Type	Description
collect_key_sample	No	Boolean	Whether to collect key samples. Options: • **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 29-424 SmartTaskConfig

Parameter	Mandatory	Type	Description
algorithm_type	No	String	Algorithm type for auto labeling. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
collect_sample	No	Boolean	Whether to enable sample collection. Options: • **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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: *Dataset output path*/*Dataset name*-*Dataset ID*/annotation/auto-deploy/. 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **Default**: default format • **CarbonData**: CarbonData (supported only by table datasets) • **CSV**: CSV
worker_server_num	No	Integer	Number of workers in a training job.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-425 ExportParams

Parameter	Mandatory	Type	Description
clear_hard_property	No	Boolean	Whether to clear hard example attributes. Options: • **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: • 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: • **true**: Allocate the training set and validation set. • **false**: Do not allocate the training set and validation set. (Default value)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
sample_state	No	String	Sample status. The options are as follows: • __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	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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-426 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-427 SearchLabels

Parameter	Mandatory	Type	Description
labels	No	Array of **SearchLabel** objects	List of label search criteria.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **OR**: OR operation • **AND**: AND operation

Table 29-428 SearchLabel

Parameter	Mandatory	Type	Description
name	No	String	Label name.
op	No	String	Operation type between multiple attributes. Options: • **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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-429 SearchProp

Parameter	Mandatory	Type	Description
op	No	String	Relationship between attribute values. Options: • **AND**: AND relationship • **OR**: OR relationship
props	No	Map<String,Array<String>>	Search criteria of an attribute. Multiple search criteria can be set.

Table 29-430 Flavor

Parameter	Mandatory	Type	Description
code	No	String	Attribute code of a resource specification, which is used for task creating.

Table 29-431 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-432 TrainingParameter

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

Table 29-433 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: • **0**: image • **1**: text • **2**: speech • **4**: table • **6**: video • **9**: custom format
sample_usage	No	String	Sample usage. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-434 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: • **human**: manual labeling • **auto**: automatic labeling
id	No	String	Label ID.
name	No	String	Label name.
property	No	**SampleLabelProperty** 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: • **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 29-435 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).

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@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: • 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.)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@modelarts:feature	No	Object	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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: • **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]**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	String	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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	Object shape, which is a default attribute dedicated to the object detection label and is left empty by default. Options: • **bndbox**: rectangle • **polygon**: polygon • **circle**: circle • **line**: straight line • **dashed**: dotted line • **point**: point • **polyline**: polyline
@modelarts: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:to	No	String	ID of the tail entity in the triplet relationship label, which is a default attribute dedicated to the triplet relationship label.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-436 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: • **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]**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
@modelarts:hard_reasons	No	Array of integers	ID of a hard sample reason, which is a default attribute. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
			• **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 29-437 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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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**.

29.1.66 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-438 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 29-439 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
result	**Result** object	Task result.
status	Integer	Task status. Options: • **-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: • **0**: Export to OBS. • **1**: Export to sample attributes.

Table 29-440 SmartTaskConfig

Parameter	Type	Description
algorithm_type	String	Algorithm type for auto labeling. Options: • **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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
engine_name	String	Engine name
export_format	Integer	Format of the exported directory. Options: • **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_parameter	String	Model parameters

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: *Dataset output path*/*Dataset name*-*Dataset ID*/**annotation/auto-deploy/**. Example: **/test/work_1608083108676/dataset123-g6IO9qSu6hoxwCAirfm/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: • **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: • **Default** • **CarbonData** (supported only by table datasets) • **CSV**
worker_server_num	Integer	Number of workers in a training job

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-441 ExportParams

Parameter	Type	Description
clear_hard_property	Boolean	Whether to clear hard example attributes. Options: • **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: • **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: • **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)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sample_state	String	Sample status. Options: • **__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 29-442 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: • **0**: The label is not a hard example. • **1**: The label is a hard example.
import_origin	String	Filter by data source

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 *Start date*-*End date*. 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-443 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: • **OR**: OR operation • **AND**: AND operation

Table 29-444 SearchLabel

Parameter	Type	Description
name	String	Label name
op	String	Operation type between multiple attributes. Options: • **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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-445 SearchProp

Parameter	Type	Description
op	String	Relationship between attribute values. Options: • **AND**: AND relationship • **OR**: OR relationship
props	Map<String,Array<String>>	Search criteria of an attribute. Multiple search criteria can be set.

Table 29-446 Flavor

Parameter	Type	Description
code	String	Attribute code of a resource specification, which is used for task creating

Table 29-447 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 29-448 TrainingParameter

Parameter	Type	Description
label	String	Parameter name
value	String	Parameter value

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-449 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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-450 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-451 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 29-452 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
sample_id	String	Sample ID
sample_type	Integer	Sample type. Options: • **0**: image • **1**: text • **2**: audio • **4**: table • **6**: video • **9**: free format
sample_usage	String	Sample usage. Options: • **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 29-453 SampleLabel

Parameter	Type	Description
annotated_by	String	Video labeling method, which is used to determine whether a video is labeled manually or automatically. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
type	Integer	Label type. Options: • **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 29-454 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: • 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.)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:feature	Object	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*]**. *x* indicates the horizontal coordinate, and *y* indicates the vertical coordinate (both *x* and *y* are greater than or equal to 0). The format of each shape is as follows: • **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	Start entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label
@modelarts:hard	String	Whether the sample is labeled as a hard example, which is a default attribute. Options: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	String	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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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:to	String	Direction entity ID of the triplet relationship label, which is a default attribute dedicated to the triplet relationship label

Table 29-455 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: • **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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
@modelarts:hard_reasons	Array of integers	ID of a hard example reason, which is a default attribute. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
		• **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
403	Forbidden
404	Not Found

Error Code

For details, see **Error Codes**.

29.1.67 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 29-456 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

29.1.68 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-457 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 29-458 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: • **asc**: ascending order • **desc**: descending order (default value)
query_current	No	Boolean	Whether to query only the latest tasks of dataset version. Options: • **true**: Query only the latest tasks of the dataset version. • **false**: Query all tasks of the dataset version. (Default value)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
return_result	No	Boolean	Whether to return the task result. Options: • **true**: Return the task result. (Default value) • **false**: Do not return the task result.
sort_by	No	String	Sorting mode of the query. Options: • **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: • 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: • **OBS**: Data obtained from OBS • **TASK**: Data processing task • **DATASET**: Dataset • **CUSTOM**: Data called by resource tenants

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • **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 29-459 Response body parameters

Parameter	Type	Description
count	Integer	Total number of data processing tasks.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
tasks	Array of **DescribeProcessorTaskResp** objects	Data processing task list queried by page.

Table 29-460 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-461 ProcessorDataSource

Parameter	Type	Description
name	String	Dataset name.
source	String	Data source path. Options: • 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-462 TemplateParam

Parameter	Type	Description
id	String	Task type, which is the ID of a data processing template. Options: • **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 29-463 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 29-464 WorkPath

Parameter	Type	Description
name	String	Dataset name.
output_path	String	Output path, for example, /datasets/demo.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
path	String	Working path. Options: • 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: • **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=XwTuRqI9En7xuZskW70%2CJ4Eh2FDEWH1qnDlD3hQ&task_type=sys_data_analyse&return_result=true&query_current=true
  ```

Example Responses

Status code: 200

OK

```
{
  "count" : 1,
  "tasks" : [ {
    "task_id" : "ddwRJeTnjpiq4dNUZOq",
    "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/
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
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" : "J4Eh2FDEWH1qnDlD3hQ",
    "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**.

29.1.69 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-465 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 29-466 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: • **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: ^!<>=&"'

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-467 ProcessorDataSource

Parameter	Mandatory	Type	Description
name	No	String	Dataset name.
source	No	String	Data source path. Options: • 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
type	No	String	Data source type. Options: • **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 29-468 TemplateParam

Parameter	Mandatory	Type	Description
id	No	String	Task type, which is the ID of a data processing template. Options: • **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 29-469 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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[/topic/body/section/table/tgroup/tbody/row/entry/p/br {""}) (br] 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 29-470 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: • 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: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-471 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" : "J4Eh2FDEWH1qnDlD3hQ"
}
```

- 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" : "yoJ5ssClpNlOrsjjFDa"
  } ],
  "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"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- 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",
    "simlarity_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",
    "simlarity_threshold" : "0.9",
    "total_status" : "[0,2]",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
      "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",
        "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" : "SNEJua7qdZZN8GvkcEr"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized
403	Forbidden

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code	Description
404	Not Found

Error Codes

See **Error Codes**.

29.1.70 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 29-472 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-473 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-474 ProcessorDataSource

Parameter	Type	Description
name	String	Dataset name.
source	String	Data source path. Options: • 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: • **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 29-475 TemplateParam

Parameter	Type	Description
id	String	Task type, which is the ID of a data processing template. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
operator_params	Array of **OperatorParam** objects	Operator parameter list.

Table 29-476 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 29-477 WorkPath

Parameter	Type	Description
name	String	Dataset name.
output_path	String	Output path, for example, /datasets/demo.
path	String	Working path. Options: • 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: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Error Codes

See **Error Codes**.

29.1.71 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 29-478 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 29-479 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

29.1.72 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}

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-480 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**.

29.2 DevEnviron (Old Version)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.2.1 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 29-481 describes the required parameters.

Table 29-481 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 29-482 describes the request parameters.

Table 29-482 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: • 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)

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-483**.
workspace	No	Object	Workspace. The default workspace ID is **0**. For details, see **Table 29-487**.
pool	No	Object	Resource pool. For details, see **Table 29-488**.
ai_project	No	Object	AI project. For details, see **Table 29-490**.

Table 29-483 notebook parameters

Parameter	Mandatory	Type	Description
storage	Yes	Object	Storage path. For details, see **Table 29-484**.
extend_storage	No	Array<Storage>	Extended storage list. For details, see **Table 29-484**. 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 29-486**.
annotations	No	Map<String,String>	Label information, which can be extended. By default, this parameter is left blank.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-484 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 29-485**. By default, this parameter is left blank.

Table 29-485 location parameters

Parameter	Mandatory	Type	Description
path	No	String	Storage path • 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**. 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	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: • **ReadOnlyMany**: read-only mode • **ReadWriteMany**: read/write mode (default value)

Table 29-486 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**.
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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-487 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 29-488 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 29-489**.

Table 29-489 userSpec parameters

Parameter	Mandatory	Type	Description
project_id	No	String	ID of the project to which the resource belongs.

Table 29-490 AIProject parameters

Parameter	Mandatory	Type	Description
id	No	String	AI project ID. This parameter is reserved.

Response Body

Table 29-491 describes the response parameters.

Table 29-491 Parameters

Parameter	Type	Description
id	String	Instance ID
name	String	Instance name

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-492**.
flavor	String	Instance flavor
flavor_details	Object	For details about the flavor, see **Table 29-496**.
pool	Object	For details about the dedicated resource pool, see **Table 29-497**.
spec	Object	Instance definition For details about parameters of a notebook instance, see **Table 29-499**.
workspace	Object	Workspace. For details, see **Table 29-504**.
ai_project	Object	AI project. For details, see **Table 29-505**.
error_code	String	Error code. For details, see **Error Codes**.
queuing_info	Object	Queuing information. For details, see **Table 29-506**.
user	Object	User information. For details, see **Table 29-507**.
repository	Object	Git repository information. For details, see **Table 29-508**. This parameter cannot be used. It is automatically returned when the API is called.

Table 29-492 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
flavor_type	String	Hardware, which can be **CPU**, **GPU**, or **Ascend**.
provision	Object	Deployment information. For details, see **Table 29-493**.
labels	Map<String,String>	Label

Table 29-493 provision parameters

Parameter	Type	Description
type	String	Deployment type. Only **Docker** is supported.
spec	Object	Deployment details. For details, see **Table 29-494**.

Table 29-494 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 29-495**.

Table 29-495 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-496 flavor_details parameters

Parameter	Type	Description
name	String	Flavor name
status	String	Flavor sales status. Options: • **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: • **obs** • **evs** • **efs**
is_permitted	Boolean	Whether the current user has the permission to use this flavor
type	String	Flavor type. Options: • **GPU** • **CPU** • **ASCEND**
params	Dict	Parameters that describing flavor
promo_type	String	Promotion type. Options: • 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
billing_params	Integer	Billing ratio This parameter is mandatory when **billing_flavor** is specified.

Table 29-497 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 29-498**.

Table 29-498 owner parameters

Parameter	Type	Description
project_id	String	Project ID

Table 29-499 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 29-500**. Extended storage supports only **obsfs** and is available only for certain dedicated resource pools.
storage	Object	Storage path. For details, see **Table 29-500**.
credential	Object	AK and SK for accessing OBS. For details, see **Table 29-510**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
repository	Object	Git repository information. For details, see **Table 29-508**. This parameter cannot be used. It is automatically returned when the API is called.
resource_reserved_timestamp	Integer	Time when the resource is reserved
auto_stop	Object	Auto stop parameter. For details, see **Table 29-503**.
failed_reasons	Object	Cause for a creation or startup failure. For details, see **Table 29-502**.
annotations	Map<String,String>	Annotations The generated URL cannot be directly accessed.
extend_params	Map<String,String>	Extended parameter

Table 29-500 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 29-501**. By default, this parameter is left blank.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-501 location parameters

Parameter	Type	Description
path	String	Storage path • 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: • **ReadOnlyMany**: read-only mode • **ReadWriteMany**: read/write mode (default value)

Table 29-502 failed_reasons parameters

Parameter	Type	Description
code	String	Error code.
message	String	Error message
detail	Map<String,String>	Error details

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-503 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 29-504 workspace parameters

Parameter	Type	Description
id	String	Workspace ID

Table 29-505 AIProject parameters

Parameter	Type	Description
id	String	AI project ID

Table 29-506 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
flavor	String	Instance flavor. By default, all types are returned. Options: • 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 29-496**.
status	String	Instance status. By default, all statuses are returned, including: • **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 29-507 user parameters

Parameter	Type	Description
id	String	User ID
name	String	Username

Table 29-508 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 29-509**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-509 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 29-510**.

Table 29-510 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": {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
        "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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.2.2 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={sortby}&order={order}&offset={offset}&limit={limit}

Table 29-511 describes the required parameters.

Table 29-511 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 29-512 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
status	No	String	Instance status. By default, all statuses are returned. Options: • **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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-513 describes the response parameters.

Table 29-513 Parameters

Parameter	Type	Description
total_count	Integer	Total number of development environments.
instances	Array	Configuration list. For details, see **Table 29-514**.

Table 29-514 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 29-515**.
flavor	String	Instance flavor
spec	Object	Instance definition. For details about parameters of a notebook instance, see **Table 29-523**.
workspace	Object	Workspace. For details, see **Table 29-528**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
latest_update_timestamp	String	Time when an instance is modified
flavor_details	Object	Flavor details. For details, see **Table 29-519**.
pool	Object	Dedicated resource pool. For details, see **Table 29-520**.
ai_project	Object	AI project. For details, see **Table 29-521**.
error_code	String	Error code. For details, see **Error Codes**.
queuing_info	Object	Queuing information. For details, see **Table 29-529**.
user	Object	User information. For details, see **Table 29-530**.
repository	Object	Git repository information. For details, see **Table 29-531**. This parameter cannot be used. It is automatically returned when the API is called.

Table 29-515 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 29-516**.
labels	Map<String,String>	Label information, which can be extended
flavor_type	String	Hardware, which can be **CPU**, **GPU**, or **Ascend**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-516 provision parameters

Parameter	Type	Description
type	String	Deployment type. Only **Docker** is supported.
spec	Object	Deployment details. For details, see **Table 29-517**.
annotations	Map<String,String>	Label information, which can be extended. By default, this parameter is left blank.

Table 29-517 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 29-518**.

Table 29-518 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 29-519 flavor_details parameters

Parameter	Type	Description
name	String	Flavor name
status	String	Flavor sales status. Options: • **onSale** • **soldOut**
queuing_num	Integer	This parameter is mandatory when **promo_type** is set to **Free** and **status** is set to **soldOut**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **GPU** • **CPU** • **ASCEND**
params	Dict	Parameters that describing flavor
promo_type	String	Promotion type. Options: • **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 29-520 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 29-522**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-521 AIProject parameters

Parameter	Type	Description
id	String	AI project ID

Table 29-522 owner parameters

Parameter	Type	Description
project_id	String	Project ID

Table 29-523 notebook parameters

Parameter	Type	Description
extend_storage	Array<Storage>	Extended storage list. For details, see **Table 29-524**. Extended storage supports only **obsfs** and is available only for certain dedicated resource pools.
storage	Object	Storage path. For details, see **Table 29-524**.
auto_stop	Object	Auto stop parameter. For details, see **Table 29-527**.
annotations	Map<String,String>	Annotations The generated URL cannot be directly accessed.
failed_reasons	Object	Cause for a creation or startup failure. See **Table 29-526**.
extend_params	Map<String,String>	Extended parameter

Table 29-524 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 29-525**. By default, this parameter is left blank.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-525 location parameters

Parameter	Mandatory	Type	Description
path	No	String	Storage path. • 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: • **ReadOnlyMany**: read-only mode • **ReadWriteMany**: read/write mode (default value)

Table 29-526 failed_reasons parameters

Parameter	Type	Description
code	String	Error code
message	String	Error message

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
detail	Map<String,String>	Error details

Table 29-527 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_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 29-528 workspace parameters

Parameter	Type	Description
id	String	Workspace ID

Table 29-529 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: • modelarts.vm.cpu.free • modelarts.vm.gpu.free

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
flavor_details	Object	Flavor details, which display the flavor information and whether the flavor is sold out For details, see **Table 29-519**.
status	String	Instance status. By default, all statuses are returned, including: • **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 29-530 user parameters

Parameter	Type	Description
id	String	User ID
name	String	Username

Table 29-531 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 29-532**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-532 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 29-533**.

Table 29-533 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": {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
                "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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
        "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**.

29.2.3 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 29-534 describes the required parameters.

Table 29-534 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 29-535 describes the response parameters.

Table 29-535 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 29-536**.
flavor	String	Instance flavor
spec	Object	Instance specifications of the notebook type. For details, see **Table 29-544**.
workspace	Object	Workspace. For details, see **Table 29-549**.
latest_update_timestamp	String	Time when an instance is modified
flavor_details	Object	Flavor details. See **Table 29-540**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
pool	Object	Dedicated resource pool. See **Table 29-541**.
ai_project	Object	AI project. For details, see **Table 29-542**.
error_code	String	Error code. For details, see **Error Codes**.
queuing_info	Object	Queuing information. For details, see **Table 29-550**.
user	Object	User information. For details, see **Table 29-551**.
repository	Object	Git repository information. For details, see **Table 29-552**. This parameter cannot be used. It is automatically returned when the API is called.

Table 29-536 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 29-537**.
labels	Map<String,String>	Label information
flavor_type	String	Hardware, which can be **CPU**,, Ascend, or **GPU**

Table 29-537 provision parameters

Parameter	Type	Description
type	String	Deployment type. Only **Docker** is supported.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
spec	Object	Deployment details. For details, see **Table 29-538**.

Table 29-538 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 29-539**.

Table 29-539 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 29-540 flavor_details parameters

Parameter	Type	Description
name	String	Flavor name
status	String	Flavor sales status. Options: • **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**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **GPU** • **CPU** • **ASCEND**
params	Dict	Parameters that describe flavors
promo_type	String	Promotion type. Options: • **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 29-541 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 29-543**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-542 AIProject parameters

Parameter	Type	Description
id	String	AI project ID

Table 29-543 owner parameters

Parameter	Type	Description
project_id	String	Project ID

Table 29-544 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 29-484**. Extended storage supports only **obsfs** and is available only for certain dedicated resource pools.
storage	Object	Storage path. For details, see **Table 29-484**.
credential	Object	AK and SK for accessing OBS. For details, see **Table 29-510**.
repository	Object	Git repository information. For details, see **Table 29-508**. This parameter cannot be used. It is automatically returned when the API is called.
resource_reserved_timestamp	Integer	Time when the resource is reserved
auto_stop	Object	Auto stop parameter. For details, see **Table 29-503**.
failed_reasons	Object	Cause for a creation or startup failure. For details, see **Table 29-502**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
annotations	Map<String,String>	Annotations The generated URL cannot be directly accessed.
extend_params	Map<String,String>	Extended parameters

Table 29-545 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 29-485**. By default, this parameter is left blank.

Table 29-546 location parameters

Parameter	Type	Description
path	String	Storage path • 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **ReadOnlyMany**: read-only mode • **ReadWriteMany**: read/write mode (default value)

Table 29-547 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 29-548 failed_reasons parameters

Parameter	Type	Description
code	String	Error code
message	String	Error message
detail	Map<String,String>	Error details

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-549 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 29-550 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: • **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 29-496**.
status	String	Instance status. By default, all statuses are returned. Options: • **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 29-551 user parameters

Parameter	Type	Description
id	String	User ID

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
name	String	Username

Table 29-552 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 29-509**.

Table 29-553 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 29-510**.

Table 29-554 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
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.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": 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",
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "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**.

29.2.4 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 29-555 describes the required parameters.

Table 29-555 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 29-556 describes the request parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-556 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 29-557**.

Table 29-557 spec parameters

Parameter	Mandatory	Type	Description
auto_stop	No	Object	Auto stop parameter. For details, see **Table 29-558**.

Table 29-558 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Body

Table 29-559 describes the response parameters.

Table 29-559 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 29-492**.
flavor	String	Instance flavor
flavor_details	Object	Flavor details. For details, see **Table 29-496**.
pool	Object	Dedicated resource pool. For details, see **Table 29-497**.
spec	Object	Instance specifications. For details about notebook, see **Table 29-494**.
workspace	Object	Workspace. For details, see **Table 29-487**.
ai_project	Object	AI project. For details, see **Table 29-566**.
error_code	String	Error code. For details, see **Error Codes**.
queuing_info	Object	Queuing information. For details, see **Table 29-506**.
user	Object	User information. For details, see **Table 29-507**.
repository	Object	Git repository. For details, see **Table 29-508**. This parameter cannot be used. It is automatically returned when the API is called.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-560 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 29-537**.
labels	Map<String,String>	Labels
flavor_type	String	Hardware, which can be **CPU**,, Ascend, or **GPU**

Table 29-561 provision parameters

Parameter	Type	Description
type	String	Deployment type. Only **Docker** is supported.
spec	Object	Deployment details. For details, see **Table 29-562**.

Table 29-562 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 29-563**.

Table 29-563 Docker deployment parameters

Parameter	Type	Description
namespace	String	SWR organization name, which is globally unique
image_name	String	Image name

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-564 flavor_details parameters

Parameter	Type	Description
name	String	Flavor name
status	String	Flavor sales status. Options: • **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 • obs • evs • efs
is_permitted	Boolean	Whether the current user has the permission to use this flavor
type	String	Flavor type. Options: • **GPU** • **CPU** • **ASCEND**
params	Dict	Parameters that describe flavors
promo_type	String	Promotion type. Options: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-565 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 29-567**.

Table 29-566 AIProject parameters

Parameter	Type	Description
id	String	AI project ID.

Table 29-567 owner parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-568 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 29-484**. Extended storage supports only **obsfs** and is available only for certain dedicated resource pools.
storage	Object	Storage path. For details, see **Table 29-484**.
credential	Object	AK and SK for accessing OBS. For details, see **Table 29-510**.
repository	Object	Git repository information. For details, see **Table 29-508**. This parameter cannot be used. It is automatically returned when the API is called.
resource_reserved_timestamp	Integer	Time when the resource is reserved
auto_stop	Object	Auto stop parameter. For details, see **Table 29-486**.
failed_reasons	Object	Cause for a creation or startup failure. For details, see **Table 29-502**.
annotations	Map<String,String>	Annotations The generated URL cannot be directly accessed.
extend_params	Map<String,String>	Extended parameters

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-569 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 29-570**. By default, this parameter is left blank.

Table 29-570 location parameters

Parameter	Mandatory	Type	Description
path	No	String	Storage path • 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **ReadOnlyMany**: read-only mode • **ReadWriteMany**: read/write mode (default value)

Table 29-571 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 29-572 failed_reasons parameters

Parameter	Type	Description
code	String	Error code

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
message	String	Error message
detail	Map<String,String>	Error details

Table 29-573 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 29-574 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: • **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 29-496**.
status	String	Instance status. By default, all statuses are returned. Options: • **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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
rank	Integer	Ranking of an instance in a queue

Table 29-575 user parameters

Parameter	Type	Description
id	String	User ID
name	String	Username

Table 29-576 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 29-509**.

Table 29-577 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 29-510**.

Table 29-578 credential parameters

Parameter	Type	Description
ssh_private_key	String	SSH private certificate
access_token	String	OAuth token of GitHub

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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.",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "error_code": "ModelArts.6309"
}
```

Status Code

For details about the status code, see **Status Code**.

29.2.5 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 29-579 describes the required parameters.

Table 29-579 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 29-580 describes the response parameters.

Table 29-580 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
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

29.2.6 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 29-581 describes the required parameters.

Table 29-581 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 29-582 describes the request parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-582 Parameters

Parameter	Mandatory	Type	Description
action	Yes	String	Operation on a development environment instance. The options are as follows: • **start** • **stop** • **restart** • **queue** • **dequeue** **queue** and **dequeue** operations can be performed only on free resources.

Response Body

Table 29-583 describes the response parameters.

Table 29-583 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"
  }
  ```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code

For details about the status code, see **Status Code**.

29.3 Training Management (Old Version)

29.3.1 Training Jobs

29.3.1.1 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 29-584 describes the required parameters.

Table 29-584 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 29-585 describes the request parameters.

Table 29-585 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
config	Yes	Object	Parameters for creating a training job For details, see **Table 29-586**.
workspace_id	No	String	Workspace where a job resides. Default value: **0**

Table 29-586 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 29-591**.
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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-587**.
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/**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 • **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 29-588**.

Table 29-587 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
data_url	No	String	OBS bucket path. This parameter cannot be used together with **dataset_id** or **dataset_version**.

Table 29-588 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 29-589**.
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 29-590**.

Table 29-589 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**. • **true**: read-only permission • **false**: read/write permission. This is the default value.

Table 29-590 host_path parameters

Parameter	Mandatory	Type	Description
src_path	Yes	String	Local path to a host

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**. • **true**: read-only permission • **false**: read/write permission. This is the default value.

Table 29-591 parameter parameters

Parameter	Mandatory	Type	Description
label	No	String	Parameter name
value	No	String	Parameter value

Response Body

Table 29-592 describes the response parameters.

Table 29-592 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
        "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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
{
    "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**.

29.3.1.2 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 29-593 describes the required parameters.

Table 29-593 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 29-594 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].

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-595 describes the response parameters.

Table 29-595 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 29-596**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
quotas	Integer	Maximum number of training jobs

Table 29-596 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
        }
    ]
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- Failed response

```
{
    "is_success": false,
    "error_message": "Error string",
    "error_code": "ModelArts.0105"

}
```

Status Code

For details about the status code, see **Status Code**.

29.3.1.3 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 29-597 describes the required parameters.

Table 29-597 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 29-598 describes the response parameters.

Table 29-598 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful
job_id	Long	ID of a training job

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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: • 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-599**.
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: **/usr/train/**
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 29-600**.
model_id	Long	Model ID of a training job
model_metric_list	String	Model metrics of a training job. For details, see **Table 29-601**.
system_metric_list	Object	System monitoring metrics of a training job. For details, see **Table 29-602**.
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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-607**.
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 29-599 parameter parameters

Parameter	Type	Description
label	String	Parameter name
value	String	Parameter value

Table 29-600 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 • **obs**: Data from OBS is used. • **dataset**: Data from a specified dataset is used.
data_url	String	OBS bucket path

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-601 model_metric_list parameters

Parameter	Type	Description
metric	JSON Array	Validation metrics of a classification of a training job. For details, see **Table 29-603**.
total_metric	JSON	Overall validation parameters of a training job. For details, see **Table 29-605**.

Table 29-602 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 29-603 metric parameters

Parameter	Type	Description
metric_values	JSON	Validation metrics of a classification of a training job. For details, see **Table 29-604**.
reserved_data	JSON	Reserved parameter
metric_meta	JSON	Classification of a training job, including the classification ID and name

Table 29-604 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 29-605 total_metric parameters

Parameter	Type	Description
total_metric_meta	JSON	Reserved parameter

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
total_reserved_data	JSON	Reserved parameter
total_metric_values	JSON	Overall validation metrics of a training job. For details, see **Table 29-606**.

Table 29-606 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 29-607 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 29-589**.
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 29-590**.

Table 29-608 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
read_only	No	Boolean	Whether **dest_path** is read-only. The default value is **false**. • **true**: read-only permission • **false**: read/write permission. This is the default value.

Table 29-609 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**. • **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
    }
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    ],
    "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",
            "0"
        ],
        "gpuUtil": [
            "0",
            "0.25",
            "0.88",
            "0",
            "0",
            "0",
            "0"
        ]
},
    "dataset_name": "dataset-test",
    "dataset_version_name": "dataset-version-test",
    "spec_code": "xxxxxxxx",
    "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
            }
        },
```


 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
        {
            "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**.

29.3.1.4 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 29-610 describes the required parameters.

Table 29-610 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Body

Table 29-611 describes the response parameters.

Table 29-611 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**.

29.3.1.5 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 29-612 describes the required parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-612 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 29-613 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 • 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 29-614 describes the response parameters.

Table 29-614 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-615**.

Table 29-615 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 29-616**.
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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-617**.
model_id	Long	Model ID of a training job
model_metric_list	String	Model metrics of a training job. For details, see **Table 29-618**.
system_metric_list	String	System monitoring metrics of a training job. For details, see **Table 29-619**.
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 29-624**.
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**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
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 29-616 parameter parameters

Parameter	Type	Description
label	String	Parameter name
value	String	Parameter value

Table 29-617 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 • **obs**: Data from OBS is used. • **dataset**: Data from a specified dataset is used.
data_url	String	OBS bucket path

Table 29-618 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 29-622**.

Table 29-619 system_metric_list parameters

Parameter	Type	Description
cpuUsage	Array	CPU usage of a training job
memUsage	Array	Memory usage of a training job

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
gpuUtil	Array	GPU usage of a training job

Table 29-620 metric parameters

Parameter	Type	Description
metric_values	JSON	Validation metrics of a classification of a training job. For details, see **Table 29-621**.
reserved_data	JSON	Reserved parameter
metric_meta	JSON	Classification of a training job, including the classification ID and name

Table 29-621 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 29-622 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 29-623**.

Table 29-623 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-624 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 29-625**.
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 29-626**.

Table 29-625 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**. • **true**: read-only permission • **false**: read/write permission. This is the default value.

Table 29-626 host_path parameters

Parameter	Type	Description
src_path	String	Local path to a host
dest_path	String	Local path to a training job

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
read_only	Boolean	Whether **dest_path** is read-only. The default value is **false**. • **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/"
                }
            ],
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
            "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**.

29.3.1.6 Creating a Version of a Training Job

Function

This API is used to create a version of a training job.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-627 describes the required parameters.

Table 29-627 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 29-628 describes the request parameters.

Table 29-628 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 29-629**.

Table 29-629 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-631**.
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 29-630**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-630 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 29-631 parameter parameters

Parameter	Mandatory	Type	Description
label	No	String	Parameter name
value	No	String	Parameter value

Response Body

Table 29-632 describes the response parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-632 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"
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    }
}
```

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**.

29.3.1.7 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 29-633 describes the required parameters.

Table 29-633 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Body

None

Response Body

Table 29-634 describes the response parameters.

Table 29-634 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**.

29.3.1.8 Modifying the Description of a Training Job

Function

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

URI

PUT /v1/{project_id}/training-jobs/{job_id}

Table 29-635 describes the required parameters.

Table 29-635 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 29-636 describes the request parameters.

Table 29-636 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 29-637 describes the response parameters.

Table 29-637 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
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**.

29.3.1.9 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 29-638 describes the required parameters.

Table 29-638 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Body

Table 29-639 describes the response parameters.

Table 29-639 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**.

29.3.1.10 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 29-640 describes the required parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-640 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 29-641 describes the response parameters.

Table 29-641 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": [
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
        "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**.

29.3.1.11 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 29-642 describes the required parameters.

Table 29-642 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 29-643 describes the request parameters.

Table 29-643 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**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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: • **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 29-644 describes the response parameters.

Table 29-644 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 29-645**.

Table 29-645 models structure data

Parameter	Type	Description
model_id	Integer	Model ID
model_name	String	Model name

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Type	Description
model_usage	Integer	Model usage. Options: • 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_train_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 29-646 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
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_frequence\",\"value
\":\"1\",\"placeholder_cn\":\"Frequency for validating the model. By default, validation is performed
every epoch.\",\"placeholder_en\":\"\",\"required\":true},{\"label\":\"mom\",\"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"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code

For details about the status code, see **Status Code**.

29.3.1.12 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 29-647 describes the required parameters.

Table 29-647 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 29-648 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 • **desc**: Query next records. • **asc**: Query previous records.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Body

None

Response Body

Table 29-649 describes the response parameters.

Table 29-649 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"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code

For details about the status code, see **Status Code**.

29.3.2 Training Job Parameter Configuration

29.3.2.1 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 29-650 describes the required parameters.

Table 29-650 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 29-651 describes the request parameters.

Table 29-651 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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, for example, **/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**.
model_id	Yes	Long	Model ID 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**.
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 29-653**.
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, **/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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-652**.
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 29-652 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-653 parameter parameters

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

Response Body

Table 29-654 describes the response parameters.

Table 29-654 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
{
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "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**.

29.3.2.2 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 29-655 describes the required parameters.

Table 29-655 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 29-656 describes the request parameters.

Table 29-656 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: • **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: • **custom**: Query the custom configurations. • **sample**: Query the sample configurations. The default value is **custom**.

Response Body

Table 29-657 describes the response parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-657 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 29-658 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}**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**.

29.3.2.3 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 29-659 describes the required parameters.

Table 29-659 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
config_name	Yes	String	Name of a training job configuration

Request Body

Table 29-660 describes the request parameters.

Table 29-660 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, **/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, for example, **/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**.
model_id	Yes	Long	Model ID 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-662**.
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, **/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 together with **data_url** or **dataset_id** and **dataset_version_id**. For details, see **Table 29-661**.
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: **/usr/train/**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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/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}**.

Table 29-661 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 29-662 parameter parameters

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Response Body

Table 29-663 describes the response parameters.

Table 29-663 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",
  ```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "error_code": "ModelArts.0105"
}
```

Status Code

For details about the status code, see **Table 28-1**.

29.3.2.4 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 29-664 describes the required parameters.

Table 29-664 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 29-665 describes the response parameters.

Table 29-665 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 28-1**.

29.3.2.5 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 29-666 describes the required parameters.

Table 29-666 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**.
config_name	Yes	String	Name of a training job configuration

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-667 Query parameters

Parameter	Mandatory	Type	Description
config_type	No	String	Configuration type to be queried. Options: • **custom**: Query the custom configurations. • **sample**: Query the sample configurations. The default value is **custom**.

Request Body

None

Response Body

Table 29-668 describes the response parameters.

Table 29-668 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 29-673**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-669**.
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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-670**.
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 29-669 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: • **obs**: Data from OBS is used. • **dataset**: Data from a specified dataset is used.
data_url	String	OBS bucket path

Table 29-670 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 29-671**.
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 29-672**.

Table 29-671 nfs parameters

Parameter	Type	Description
id	String	ID of an SFS Turbo file system

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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**. • **true**: read-only permission • **false**: read/write permission. This is the default value.

Table 29-672 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**. • **true**: read-only permission • **false**: read/write permission. This is the default value.

Table 29-673 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",
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
  "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 28-1**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.3.3 Visualization Jobs

29.3.3.1 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 29-674 describes the required parameters.

Table 29-674 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 29-675 describes the request parameters.

Table 29-675 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-676**.
schedule	No	Object	Auto stop setting. For details, see **Table 29-677**.

Table 29-676 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 29-677 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 29-678 describes the response parameters.

Table 29-678 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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",
  ```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
    "error_code": "ModelArts.0103"
}
```

Status Code

For details about the status code, see **Table 28-1**.

29.3.3.2 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 29-679 describes the required parameters.

Table 29-679 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 29-680 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**

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Parameter	Mandatory	Type	Description
order	No	String	Sorting order. Options: • **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 29-681 describes the response parameters.

Table 29-681 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 29-682**.
quotas	Integer	Maximum number of training jobs

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-682 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"
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Status Code

For details about the status code, see **Table 28-1**.

29.3.3.3 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 29-683 describes the required parameters.

Table 29-683 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 29-684 describes the response parameters.

Table 29-684 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 28-1**.

29.3.3.4 Modifying the Description of a Visualization Job

Function

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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

URI

PUT /v1/{project_id}/visualization-jobs/{job_id}

Table 29-685 describes the required parameters.

Table 29-685 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 29-686 describes the request parameters.

Table 29-686 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 29-687 describes the response parameters.

Table 29-687 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 28-1**.

29.3.3.5 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 29-688 describes the required parameters.

Table 29-688 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

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Request Body

None

Response Body

Table 29-689 describes the response parameters.

Table 29-689 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 28-1**.

29.3.3.6 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

URI

POST /v1/{project_id}/visualization-jobs/{job_id}/stop

Table 29-690 describes the required parameters.

Table 29-690 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 29-691 describes the response parameters.

Table 29-691 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
}
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

- 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 28-1**.

29.3.3.7 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 29-692 describes the required parameters.

Table 29-692 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 29-693 describes the response parameters.

Table 29-693 Parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 28-1**.

29.3.4 Resource and Engine Specifications

29.3.4.1 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 29-694 describes the required parameters.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-694 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 29-695 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** • **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 29-696 describes the response parameters.

Table 29-696 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

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 29-697**.

Table 29-697 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": [

    {
```

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

```
            "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 28-1**.

29.3.4.2 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 29-698 describes the required parameters.

Table 29-698 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**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-699 Parameters

Parameter	Mandatory	Type	Description
job_type	No	String	Job type. The value can be **train** or **inference**.

Request Body

None

Response Body

Table 29-700 describes the response parameters.

Table 29-700 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 29-701**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

Table 29-701 engines parameters

Parameter	Type	Description
engine_type	Integer	Engine type of a training job • 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 28-1**.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.

29.3.5 Job Statuses

Table 29-702 describes the job statuses.

Table 29-702 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.

 Copyright © Huawei Cloud Computing Technologies Co., Ltd.