## Data Warehouse Service(DWS) 8.1.3.333

## **API Reference**

**Issue** 01

**Date** 2024-08-09





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## **Contents**

1 Before You Start	1
1.1 Overview	1
1.2 API Calling	1
1.3 Endpoints	1
1.4 Basic Concepts	1
2 API Overview	3
3 Calling APIs	4
3.1 Making an API Request	4
3.2 Authentication	8
3.3 Response	8
4 Getting Started	11
5 API Description	17
5.1 AZ	17
5.1.1 Querying AZs	17
5.2 Cluster Management	19
5.2.1 Creating a Cluster	19
5.2.2 Modifying the Security Group of a Cluster	23
5.2.3 Creating a Cluster (V2)	25
5.2.4 Creating a Logical Cluster	
5.2.5 Converting a Physical Cluster to a Logical Cluster	32
5.2.6 Querying the Cluster List	
5.2.7 Querying the Logical Cluster List	43
5.2.8 Querying Task Information About a Logical Cluster	
5.2.9 Querying Disk Information of a Logical Cluster	
5.2.10 Querying the Node List	
5.2.11 Querying Information About Available Ring Nodes in a Logical Cluster	
5.2.12 Querying Information About Ring Nodes in a Cluster Topology	
5.2.13 Querying Cluster Details	
5.2.14 Querying Node Types	
5.2.15 Deleting Clusters	
5.2.16 Deleting a Cluster (V2)	
5.2.17 Deleting a Logical Cluster	82

5.2.18 Editing a Logical Cluster	83
5.2.19 Restarting a Logical Cluster	86
5.2.20 Switching to a Logical Cluster	88
5.2.21 Deleting a Node	90
5.2.22 Scaling Out with Idle Nodes	91
5.2.23 Resuming Redistribution	94
5.2.24 Suspending Redistribution	96
5.2.25 Restarting a Cluster	97
5.2.26 Checking Before Cluster Capacity Expansion	98
5.2.27 Expanding Cluster Capacity/Adding Idle Nodes	101
5.2.28 Resetting a Password	103
5.2.29 Performing a Check Before Cluster Creation	105
5.2.30 Scaling In a Cluster	109
5.2.31 Delivering Redistribution	111
5.2.32 Querying Redistribution Details	113
5.2.33 Querying the Cluster Tag List	118
5.2.34 Querying Clusters by Tag	120
5.2.35 Querying the Resource Statistics	122
5.2.36 Performing a Switchback	124
5.2.37 Removing the Read-only Status	126
5.2.38 Adding Disk Capacity	127
5.2.39 Querying Cluster CN Nodes	129
5.2.40 Adding CN Nodes in Batches	131
5.2.41 Deleting CN Nodes in Batches	133
5.2.42 Querying a Cluster Parameter Group	135
5.2.43 Querying Cluster Parameter Settings	137
5.2.44 Modifying Parameter Settings of a Cluster	140
5.2.45 Querying Snapshot Statistics	142
5.2.46 Querying the Nodes to Be Removed for Scale-In	143
5.2.47 Querying Cluster Instance Information	145
5.2.48 Querying the Cluster Specification Details	147
5.2.49 Querying the Disk Usage of a Tenant Management Node	150
5.2.50 Obtaining the Disk Scale-Out Range	152
5.2.51 Obtaining Cluster Encryption Information	154
5.2.52 Checking Before Disk Capacity Expansion	155
5.2.53 Querying Parameter Modification Audit Records	157
5.2.54 Saving Cluster Description	159
5.2.55 Scale-in Check	161
5.2.56 Querying the List of Flavors That Can Be Changed	163
5.2.57 Changing Flavors	165
5.2.58 Querying Available Operations of the Current Tenant	167
5.2.59 Querying an Instance	168

5.2.60 Converting an Ordinary Cluster to an Encrypted Cluster	173
5.2.61 Starting a Cluster	175
5.2.62 Stopping a Cluster	177
5.3 Snapshot Management	178
5.3.1 Creating a Snapshot	178
5.3.2 Creating Snapshots Manually	181
5.3.3 Querying the Snapshot List	186
5.3.4 Querying Snapshot Details	188
5.3.5 Checking Snapshot Information	192
5.3.6 Querying Details About the Flavor Used by a Snapshot	193
5.3.7 Restoring a Snapshot to a Cluster	198
5.3.8 Deleting a Manual Snapshot	201
5.3.9 Adding a Snapshot Policy	202
5.3.10 Previewing a Snapshot Policy	205
5.3.11 Querying a Snapshot Policy	207
5.3.12 Obtaining Backup Policy Details	209
5.3.13 Modifying a Snapshot Policy	211
5.3.14 Deleting a Snapshot Policy	213
5.3.15 Restoring a Cluster	214
5.3.16 Checking the Name of the Table to Be Restored	217
5.3.17 Restoring a Table	220
5.3.18 Obtaining Available Regions of a Cross-Region Snapshot	222
5.3.19 Configuring Cross-Region Backup	223
5.3.20 Querying All Cross-Region Snapshot Configurations	225
5.3.21 Deleting Cross-Region Backup Configurations	227
5.3.22 Copying a Snapshot	228
5.3.23 Querying the Cluster Snapshot List	230
5.3.24 Obtaining Roach Parameter Settings	235
5.3.25 Updating Roach Parameters of a Cluster Snapshot	237
5.3.26 Stopping Snapshot Creation	238
5.3.27 Obtaining the User Database	240
5.3.28 Obtaining the Schema of the User Database	241
5.4 Event Management	243
5.4.1 Querying the Event List	243
5.4.2 Querying Event Configurations	
5.4.3 Querying Subscribed Events	248
5.4.4 Creating an Event Subscription	251
5.4.5 Updating a Subscribed Event	254
5.4.6 Deleting a Subscribed Event	257
5.5 Data Source	259
5.5.1 Querying a Data Source	
5.5.2 Creating a Data Source	262

5.5.3 Updating a Data Source	264
5.5.4 Deleting a Data Source	266
5.6 Audit logs	267
5.6.1 Querying Logs	267
5.7 Resource Management	269
5.7.1 Setting the Resource Management Switch	269
5.7.2 Querying the Resource Management Status	271
5.7.3 Querying Resource Statistics	273
5.7.4 Creating a Resource Pool	275
5.7.5 Deleting a Resource Pool	279
5.7.6 Querying the Resource Pool List	280
5.7.7 Obtaining Resource Pool Details	282
5.7.8 Updating Configuration Information of a Resource Pool	285
5.7.9 Querying All Plans Associated with a Queue	287
5.7.10 Adding an Exception Rule	290
5.7.11 Modifying an Exception Rule	293
5.7.12 Deleting an Exception Rule	295
5.7.13 Querying the List of Exception Rules for Resource Management	297
5.7.14 Binding and Unbinding Exception Rules	300
5.7.15 Associating a Resource Pool with a User	301
5.7.16 Obtaining the List of Users Bound to a Resource Pool	303
5.7.17 Unbinding a User from a Resource Pool	306
5.7.18 Creating a Resource Management Plan	308
5.7.19 Querying the Resource Management Plan List	310
5.7.20 Starting a Resource Management Plan	
5.7.21 Viewing Plan Execution Logs	315
5.7.22 Querying Details About a Resource Management Plan	317
5.7.23 Stopping a Resource Management Plan	321
5.7.24 Deleting a Resource Management Plan	322
5.7.25 Adding a Resource Management Plan Stage	323
5.7.26 Querying Details About a Resource Management Plan Stage	327
5.7.27 Deleting a Resource Management Plan Stage	329
5.7.28 Modifying a Resource Management Plan Stage	331
5.7.29 Switch to Another Resource Management Plan Stage	334
5.7.30 Querying Cluster Schema Space Information	336
5.7.31 Updating the Space Limit of a Schema	339
5.8 Alarm Management	340
5.8.1 Querying Alarm Configurations	340
5.8.2 Querying Alarm Details List	343
5.8.3 Querying the Alarm Statistics List	345
5.8.4 Querying the Alarm Subscription List	348
5.8.5 Creating an Alarm Subscription Task	350

5.8.6 Updating Subscribed Alarms	353
5.8.7 Deleting an Alarm Subscription	356
5.9 Connection Management	358
5.9.1 Applying for a Private Domain Name	358
5.9.2 Modifying a Cluster Domain Name	360
5.9.3 Deleting a Cluster Domain Name	361
5.9.4 Obtaining the Available ELB List	363
5.9.5 Binding an ELB to a Cluster	365
5.9.6 Unbinding an ELB From a Cluster	366
5.9.7 Binding an EIP to a Cluster	368
5.9.8 Unbinding an EIP from a Cluster	369
5.9.9 Querying Connections	370
5.9.10 Querying ELB Information	374
5.10 Tag Management	377
5.10.1 Querying Tags in a Project	377
5.10.2 Querying Cluster Tags	379
5.10.3 Adding Tags in Batches	380
5.10.4 Deleting Tags in Batches	382
5.11 Quota Management	384
5.11.1 Querying Resource Quotas	384
5.12 DR Management	386
5.12.1 Creating a DR Task	386
5.12.2 Enabling DR	388
5.12.3 Querying the DR List	390
5.12.4 Querying DR Details	393
5.12.5 Querying DR Progress	396
5.12.6 Querying the List of Available DR Clusters	398
5.12.7 Updating DR Configurations	401
5.12.8 Switching to the DR Cluster	403
5.12.9 Switching to the DR Cluster Upon Production Cluster Exceptions	405
5.12.10 Performing Cluster Restoration	406
5.12.11 Disabling DR	408
5.12.12 Checking the DR Name	410
5.12.13 Deleting a DR Task	411
5.13 Job Management	412
5.13.1 Querying the Job Progress	412
5.14 Host Monitoring	414
5.14.1 Querying the Host Overview	414
5.14.2 Querying Disk Information	417
5.14.3 Obtaining the NIC Status	420
5.14.4 Querying Performance Monitoring Metrics	422
5.14.5 Querying Historical Monitoring Data	424

5.14.6 Querying Table Skew or Dirty Page Rate Information	426
5.14.7 Querying the SQL List	429
5.14.8 Querying SQL Execution Information	440
5.14.9 Querying the Metrics of a Cluster	445
5.14.10 Obtaining Collected Data of a Specified Metric	448
5.15 Managing Database Permissions	450
5.15.1 Deleting User/Role Information	451
5.15.2 Synchronizing Sub-users to the Database	452
5.15.3 Querying All Database Users and Roles	453
5.15.4 Creating a Database User/Role	455
5.15.5 Querying User Information	459
5.15.6 Modifying User Information	462
5.15.7 Modifying Database Object Permissions	464
5.15.8 Querying Database Object Permissions	469
5.15.9 Querying the Role of a User	471
5.15.10 Querying the Permissions of a User	473
5.15.11 Querying Database Objects	477
5.15.12 Setting the LDAP Identity Source	480
5.15.13 Querying the LDAP Identity Data Source Configuration	482
5.15.14 Setting the OneAccess Identity Source	484
5.15.15 Querying Identity Source Synchronization Records	485
5.15.16 Manually Synchronizing the Identity Source	488
5.16 Log Management	489
5.16.1 Obtaining the LTS Log List	489
5.16.2 Enabling LTS	491
5.16.3 Disabling LTS	492
5.17 Upgrade Management	493
5.17.1 Obtaining Cluster Upgrade Records	493
5.17.2 Obtaining the Target Version to Which a Cluster Can Be Upgraded	496
5.17.3 Delivering Cluster Upgrade Operations	498
5.18 Database Monitoring Management APIs	
5.18.1 Querying the GaussDB(DWS) Cluster Status	499
5.18.2 Querying the Database Usage in a GaussDB(DWS) Cluster	
5.18.3 Querying the Disk I/O Usage of Each Node in a GaussDB(DWS) Cluster	506
5.18.4 Querying the Disk I/O Usage of Each Node in a GaussDB(DWS) Cluster (Aggregate Data)	509
5.18.5 Querying the File System Usage of Each Node in a GaussDB(DWS) Cluster	514
5.18.6 Querying the File System Usage of Each Node in a GaussDB(DWS) Cluster (Aggregate Data)	516
5.18.7 Querying the NIC Traffic of Each Node in a GaussDB(DWS) Cluster	521
5.18.8 Querying the Query Execution Status in a GaussDB(DWS) Cluster	524
5.18.9 Querying the Session Execution Status in a GaussDB(DWS) Cluster	
5.18.10 Querying the GaussDB(DWS) Hardware Resource Usage	531
5.18.11 Querying the Hardware Resource Usage in a GaussDB(DWS) Cluster (Aggregate Data)	533

6 Appendix	538
6.1 Status Code	
6.2 Error Code	541
6.3 Creating a VPC	552
6.4 Obtaining Resource Sets ID	
6.5 Obtaining a Tenant ID	553
6.6 Obtaining the Cluster ID	554
6.7 Obtaining Endpoints	555

## Before You Start

## 1.1 Overview

Welcome to GaussDB(DWS). GaussDB(DWS) is a fully-managed and enterprise-level cloud data warehouse service. It is O&M-free, compatible with the PostgreSQL ecosystem, and supports online cluster scale-out and efficient loading of multiple data sources. GaussDB(DWS) helps enterprises efficiently analyze and monetize massive data online.

This document describes how to use application programming interfaces (APIs) to create, query, and delete GaussDB(DWS) clusters and snapshots. For details about all supported operations, see API Overview.

Before calling an API, get familiar with related concepts of GaussDB(DWS). For details, see "Service Overview" in the *Data Warehouse Service User Guide*.

## 1.2 API Calling

GaussDB(DWS) supports representational state transfer (REST) APIs, allowing you to call APIs using HTTPS.

## 1.3 Endpoints

An endpoint is the **request address** for calling an API. Endpoints vary depending on services and regions. For details, see **Obtaining Endpoints**.

## 1.4 Basic Concepts

Region

A region is a geographic area in which 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.

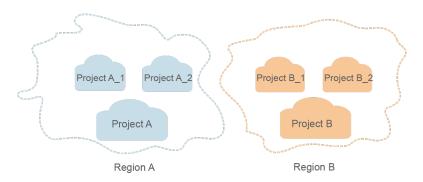
#### AZ

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

#### Item

A project corresponds to a region. Projects group and isolate resources (including compute, storage, and network resources) across physical regions. Users can be granted permissions in a default project to access all resources in the region associated with the project. For more refined access control, create subprojects under a project and apply for resources in the subprojects. IAM users can then be assigned permissions to access only specific resources in the subprojects.

Figure 1-1 Project isolating model



## Enterprise project

Enterprise projects group and manage resources across regions. Resources in enterprise projects are logically isolated from each other. An enterprise project can contain resources of multiple regions, and resources can be added to or removed from enterprise projects.

## **2** API Overview

GaussDB(DWS) provides APIs developed by Huawei. You can use the following GaussDB(DWS) functions with the APIs.

# 3 Calling APIs

## 3.1 Making an API Request

This section describes the structure of a REST API request, and describes how to call an API by obtaining a user token. The obtained token can then be used to authenticate the calling of other APIs.

## **Request URI**

A request URI is in the following format:

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

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

Table 3-1 URI parameter description

Parameter	Description	
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS.	
Endpoint	Domain name or IP address of the server bearing the REST service. The endpoint varies between services in different regions. It can be obtained from <b>Obtaining Endpoints</b> .	
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the resource-path of the API used to obtain a user token is /v3/auth/tokens.	
query-string	Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of " <i>Parameter name=Parameter value</i> ". For example, ?limit=10 indicates that a maximum of 10 data records will be displayed.	

#### ■ NOTE

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

## **Request Methods**

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

Table 3-2 HTTP methods

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

## **Request Header**

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

For details about common request headers, see Table 3-3.

Table 3-3 Common request header fields

Field	Description	Mandatory	Example
x-sdk-date	Time when the request is sent. The time is in YYYYMMDD'T'HH MMSS'Z' format.	No	20150907T101459Z
	The value is the current GMT time of the system.		

Field	Description	Mandatory	Example
Host	Server information of the resource being requested. The value can be obtained from the URL of the service API. The value is in the format of hostname[:port]. If the port number is not specified, the default port is used. The default port number for HTTPS is 443.		code.test.com or code.test.com:443
Content-Type	Request body MIME type. You are advised to use the default value application/json. For APIs used to upload objects or images, the value can vary depending on the flow type.	Yes	application/json
Content- Length	Length of the request body. The unit is byte.	No	3495
X-Project-id	Resource Sets ID. For how to obtain the ID, see Obtaining Resource Sets ID.	No	e9993fc787d94b6c886cb aa340f9c0f4
X-Auth-Token	User token. The X-Subject- Token value contained in the returned message header is the token.	No This parameter is mandatory for token-based authenticatio n.	The following is part of an example token: MIIPAgYJKoZIhvcNAQc- Coggg1BBIINPXsidG9rZ
X-Language	Request language.	No	zh_cn

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://{{endpoint}}/v3/auth/tokens Content-type: application/json

## **Request Body**

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

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

#### □ NOTE

The **scope** parameter specifies where a token takes effect. In the example, the token takes effect only on the resources specified by the project. In the following example, the token takes effect only for the resources in a specified project. For more information about this API, see Obtaining a User Token.

```
POST https://{{endpoint}}/v3/auth/tokens
Content-type: application/json
  "auth": {
     "identity": {
       "methods": [
          "password"
        password": {
          "user": {
            "name": "user name".
            "password": " *******".
            "domain": {
               "name": "domainname"
         }
       }
     "scope": {
       "project": {
          }
  }
```

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

## 3.2 Authentication

Calling an API can be authenticated using tokens.

## **Token-based Authentication**

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

#### □ 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.

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

```
"auth": {
   "identity": {
     "methods": [
        "password"
      'password": {
        "user": {
           "name": "user_name",
           "password": " *******,
           "domain": {
              "name": "domainname"
        }
     }
  },
   'scope": {
      "project": {
        "id": "xxxxxxxx"
  }
}
```

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

## 3.3 Response

#### **Status Code**

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

A status code is a group of digits, ranging from 1xx to 5xx. It indicates the status of a request. For more information, see **Status 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 3-1** shows the response header fields for the API used to obtain a user token. The **x-subject-token** header field is the desired user token. You can use this token to authenticate the calling of other APIs.

Figure 3-1 Header fields of the response to the request for obtaining a user token

```
content-type → application/json

date → Tue, 12 Feb 2019 06:52:13 GMT

server → Web Server

strict-transport-security → max-age=31536000; includeSubdomains;

transfer-encoding → chunked

via → proxy A

x-content-type-options → nosniff

x-download-options → nospen

x-frame-options → SAMEORIGIN

x-iam-trace-id → 218d45ab-d674-4995-af3a-2d0255ba41b5

x-subject-token

x-xsss-protection → 1; mode=block;
```

## **Response Body**

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

The following is part of the response body for the API used to obtain a user token.

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 response body, **error\_code** is an error code, and **error\_msg** provides information about the error.

## 4 Getting Started

This section describes how to use GaussDB(DWS) APIs to manage clusters. The procedure of the management clusters is as follows:

- 1. Call the API in **Querying Node Types** to obtain the supported node types.
- 2. Call the API in **Creating a Cluster** to create a cluster.
- 3. Call the API in **Querying the Cluster List** to obtain the cluster information.
- 4. Call the API in Querying Cluster Details to view cluster details.
- 5. Call the API in **Creating a Snapshot** to create a snapshot.
- 6. Call the API in **Querying the Snapshot List** to check whether the snapshot is successfully created.
- 7. Call the API in **Restoring a Cluster** to restore a cluster using its snapshot.
- 8. Call the API in **Deleting a Manual Snapshot** to delete an unwanted snapshot.
- 9. Call the API in **Deleting Clusters** to delete a finished or unwanted cluster.

## **Prerequisites**

- You have created a VPC, subnet, and security group and obtained their IDs. For details, see **Creating a VPC**.
- You have obtained the endpoint of GaussDB(DWS). For details, see Obtaining Endpoints.
- You have obtained the Resource Sets ID. For details, see Obtaining Resource Sets ID.

## Managing a Cluster

The following values are examples (replace them based on the actual situation).

- GaussDB(DWS) endpoint: dws\_endpoint
- VPC ID: 219ab8a0-1272-4049-a383-8ad0b770fa11
- Subnet ID: d23ef2e9-8b90-49b3-bc4a-fd7d6bea6bec
- Security group ID: 12e3c23a-8710-4b75-95e4-5c8d7f68ef3c
- Resource Sets ID: 9bc552e6-19af-4326-800d-281a92984636

Perform the following operations to manage the cluster.

#### **Step 1** Call the API in **Querying Node Types** to obtain the supported node types.

curl -X GET -H 'Content-type:application/json;charset=utf-8' -H "X-Auth-Token:\$Token" https:// {dws\_endpoint}/v1.0/9bc552e6-19af-4326-800d-281a92984636/node\_types -v -k

The request response is as follows:

```
status CODE 200
   "node_types": [
     {
        "spec_name": "dws.d2.xlarge",
        "id": "ebe532d6-665f-40e6-a4d4-3c51545b6a67",
        "detail": [
              "type": "vCPU",
              "value": "4"
           },
              "value": "1675",
              "type": "LOCAL_DISK",
"unit": "GB"
              "type": "mem",
              "value": "32",
"unit": "GB"
        ]
     },
         "spec_name": "dws.m1.xlarge.ultrahigh",
        "id": "ebe532d6-665f-40e6-a4d4-3c51545b4f71",
        "detail": [
              "type": "vCPU",
              "value": "4"
              "value": "512",
              "type": "SSD",
              "unit": "GB"
              "type": "mem",
              "value": "32",
"unit": "GB"
        ]
     }
  ]
status CODE 200
  "node_types": [
     {
        "spec_name": "physical.d2.24xlarge.5",
        "id": "ebe532d6-665f-40e6-a4d4-3c51545b6a67",
        "detail": [
           {
              "type": "vCPU",
              "value": "4"
              "value": "160",
              "type": "SSD",
"unit": "GB"
              "type": "mem",
```

#### **Step 2** Call the API in **Creating a Cluster** to create a cluster.

The examples for configuring the cluster are as follows:

- Cluster name: dws-demo
- Administrator username: **dbadmin**
- Administrator password: passw0rd
- Port: 8000
- Node type: physical.d2.24xlarge.5
- Number of nodes: 3
- Elastic IP (EIP): auto\_assign

If status code **200** is returned, the request for creating a cluster is successfully sent.

Step 3 Call the API in Querying the Cluster List to obtain the cluster information.

```
curl -X GET -H 'Content-type:application/json;charset=utf-8' -H "X-Auth-Token:$Token" https://

{dws_endpoint}/v1.0/9bc552e6-19af-4326-800d-281a92984636/clusters -k -v
```

The request response is as follows:

```
"clusters": [
"id": "7ba031f6-81f4-4670-ad20-c490b91877e5",
"status": "AVAILABLE",
"sub_status": "NORMAL",
"task_status": null,
"action_progress": null,
"node_type": "physical.d2.24xlarge.5",
"subnet_id": "d23ef2e9-8b90-49b3-bc4a-fd7d6bea6bec",
"security_group_id": "12e3c23a-8710-4b75-95e4-5c8d7f68ef3c",
"number_of_node": 3,
"availability_zone": "az1.dc1",
"port": 8000,
"name": "dws-demo",
"version": "1.1.0",
"vpc_id": "219ab8a0-1272-4049-a383-8ad0b770fa11",
"user_name": "dbadmin",
"public_ip": {
  "public_bind_type": "auto_assign",
  "eip id": "85b20d7e-9eb7-4b2a-98f3-3c8843ea3574"
```

- If **status** is **CREATING**, the cluster is being created. If **status** is **AVAILABLE**, the cluster is successfully created.
- The UUID of cluster **dws-demo** is **7ba031f6-81f4-4670-ad20-c490b91877e5**. Record the UUID for subsequent use.

#### **Step 4** Call the API in **Querying Cluster Details** to view cluster details.

curl -X GET -H "Content-type:application/json" -H "X-Auth-Token:\$Token" https://{dws\_endpoint}/v1.0/9bc552e6-19af-4326-800d-281a92984636/clusters/7ba031f6-81f4-4670-ad20-c490b91877e5 -k -v

The request response is as follows:

```
"cluster": {
  "id": "7ba031f6-81f4-4670-ad20-c490b91877e5",
  "status": "AVAILABLE",
"name": "dws-demo",
  "updated": "2018-01-15T12:50:06",
  "created": "2018-01-15T12:50:06",
  "user_name": "dbadmin", "sub_status": "NORMAL",
  "task_status": null,
  "action_progress": null,
  "node_type": "physical.d2.24xlarge.5",
  "node_type_id": "5ddb1071-c5d7-40e0-a874-8a032e81a697",
  "subnet_id": "d23ef2e9-8b90-49b3-bc4a-fd7d6bea6bec",
  "security_group_id": "12e3c23a-8710-4b75-95e4-5c8d7f68ef3c",
  "number_of_node": 3,
  "availability_zone": "az1.dc1",
  "port": 8000,
   vpc_id": "219ab8a0-1272-4049-a383-8ad0b770fa11",
  "public_ip": {
      "public_bind_type": "auto_assign",
      "eip_id": "85b20d7e-9eb7-4b2a-98f3-3c8843ea3574"
  "public_endpoints": [
        "public_connect_info": "10.0.0.8:8000",
        "jdbc_url": "jdbc:postgresql://10.0.0.8:8000/<YOUR_DATABASE_name>"
   ],
  "endpoints": [
        "connect_info": "192.168.0.10:8000",
```

```
"jdbc_url": "jdbc:postgresgl://192.168.0.10:8000/< YOUR_DATABASE_name>"
     },
{
           "connect info": "192.168.0.12:8000",
           "jdbc_url": "jdbc:postgresql://192.168.0.12:8000/<YOUR_DATABASE_name>"
     }
      "version": "1.1.0",
     "maintain_window": {
        "day": "Wed",
        "start_time": "18:00",
"end_time": "22:00"
     },
     "recent_event": 1,
     "tags": null,
     "parameter_group": {
          "id": "157e9cc4-64a8-11e8-adc0-fa7ae01bbebc",
                                                                       "name": "Default-Parameter-Group-
dws "
                 "status": "In-Sync"
  }
```

**public\_endpoints** and **endpoints** can be queried from the response. After the cluster is successfully created, you can use **public\_endpoints** or **endpoints** to access the cluster from an external source.

**Step 5** Call the API in **Creating a Snapshot** to create a snapshot.

Create snapshot **snapshotForDemoCluster** for cluster **dws-demo**.

```
curl -X POST -H "Content-type:application/json" -H "X-Auth-Token:$Token" -d '{
    "snapshot": {
        "name": "snapshotForDemoCluster",
        "cluster_id": "7ba031f6-81f4-4670-ad20-c490b91877e5",
        "description": "Snapshot description"
    }
}' https://{dws_endpoint}/v1.0/9bc552e6-19af-4326-800d-281a92984636/snapshots -k -v
```

The request response is as follows:

```
{
    "snapshot": {
        "id": "2a4d0f86-67cd-408a-8b66-017454fb7793"
    }
}
```

If status code **200** is returned, the request for creating a snapshot is successfully sent. Record **id** so that the ID can be used when you query the snapshot details later.

**Step 6** Call the API in **Querying the Snapshot List** to check whether the snapshot is successfully created.

```
curl -X GET -H 'Content-type:application/json;charset=utf-8' -H "X-Auth-Token:$Token" https://
{dws_endpoint}/v1.0/9bc552e6-19af-4326-800d-281a92984636/snapshots/
2a4d0f86-67cd-408a-8b66-017454fb7793 -k -v
```

If the snapshot status in the response is **AVAILABLE**, the snapshot is successfully created. If the snapshot status is **CREATING**, the snapshot is being created.

```
{
    "snapshot": {
        "id": "2a4d0f86-67cd-408a-8b66-017454fb7793",
        "name": "snapshotForDemoCluster",
        "description": "Snapshot description",
        "started": "2018-01-18T13:59:23Z",
        "finished": "2018-01-18T13:01:40Z",
        "size": 500,
        "status": "AVAILABLE",
```

**Step 7** Call the API in **Restoring a Cluster** to restore a cluster using its snapshot.

```
Restore snapshot snapshotForDemoCluster to new cluster dws-restore.

curl -X POST -H 'Content-type:application/json;charset=utf-8' -H "X-Auth-Token:$Token" -d '{
    "restore": {
        "name": "dws-restore"
    }
}' https://{dws_endpoint}/v1.0/9bc552e6-19af-4326-800d-281a92984636/snapshots/
2a4d0f86-67cd-408a-8b66-017454fb7793/actions -v -k
```

If status code **200** is returned, the cluster is successfully restored. You can check the cluster restoration status by performing operations in **Restoring a Cluster**.

**Step 8** Call the API in **Deleting a Manual Snapshot** to delete an unwanted snapshot.

```
curl -X DELETE -H 'Content-type:application/json;charset=utf-8' -H "X-Auth-Token:$Token" https:// {dws_endpoint}/v1.0/9bc552e6-19af-4326-800d-281a92984636/snapshots/ 2a4d0f86-67cd-408a-8b66-017454fb7793 -v -k
```

If status code **202** is returned, the snapshot is successfully deleted.

**Step 9** Call the API in **Deleting Clusters** to delete an unwanted cluster.

```
curl -X DELETE -H 'Content-type:application/json;charset=utf-8' -H "X-Auth-Token:$Token" -d '{
    "keep_last_manual_snapshot":0
}' https://{dws_endpoint}/v1.0/9bc552e6-19af-4326-800d-281a92984636/clusters/7ba031f6-81f4-4670-ad20-c490b91877e5 -v -k
```

If status code 202 is returned, the cluster is successfully deleted.

----End

# 5 API Description

## 5.1 AZ

## 5.1.1 Querying AZs

## **Function**

This API is used to query the IDs of AZs available for a tenant to create a cluster. AZ IDs are configured during instance creation.

## **URI**

GET /v1.0/{project\_id}/availability-zones

Table 5-1 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

## **Request Parameters**

None

## **Response Parameters**

Status code: 200

**Table 5-2** Response body parameters

Parameter	Туре	Description
availability_zo nes	Array of AvailabilityZ one objects	AZ list objects
count	Integer	Number of AZs

**Table 5-3** AZ parameters

Parameter	Туре	Description
code	String	Unique ID of an AZ
name	String	AZ name
status	String	AZ status  • Available  • Unavailable
public_border _group	String	AZ group, for example, <b>center</b> .

## **Example Request**

GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/availability-zones

## **Example Responses**

#### Status code: 200

The AZ list is queried successfully.

```
{
  "availability_zones" : [ {
    "code" : "az1",
    "name" : "AZ1",
    "status" : "available",
    "public_border_group" : "center"
  } ],
  "count" : 1
}
```

## **Status Code**

Status Code	Description
200	The AZ list is queried successfully.
400	Request error

Status Code	Description
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error
503	Service unavailable.

## **5.2 Cluster Management**

## 5.2.1 Creating a Cluster

## **Function**

This API is used to create a cluster.

The cluster must run in a VPC. Before creating a cluster, you need to create a VPC and obtain the VPC and subnet IDs.

This API is an asynchronous API. It takes 10 to 15 minutes to create a cluster.

## **URI**

POST /v1.0/{project\_id}/clusters

Table 5-4 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

## **Request Parameters**

Table 5-5 Request body parameters

Parameter	Mandatory	Туре	Description
cluster	Yes	CreateCluster Info object	Cluster object

**Table 5-6** CreateClusterInfo

Parameter	Mandatory	Туре	Description
node_type	Yes	String	Node type.
number_of_n ode	Yes	Integer	Number of cluster nodes. For a cluster, the value ranges from 3 to 256. For a hybrid data warehouse (standalone), the value is 1.
subnet_id	Yes	String	Subnet ID, which is used for configuring cluster network.
security_grou p_id	Yes	String	ID of a security group, which is used for configuring cluster network.
vpc_id	Yes	String	VPC ID, which is used for configuring cluster network.
availability_zo ne	No	String	AZ of a cluster.  NOTE  Currently, you cannot select multiple AZs at a time.
port	No	Integer	Service port of a cluster. The value ranges from 8000 to 30000. The default value is <b>8000</b> .
name	Yes	String	Cluster name, which must be unique. The cluster name must contain 4 to 64 characters, which must start with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed.
user_name	Yes	String	Administrator username for logging in to a GaussDB(DWS) cluster. The username must:  Consists of lowercase letters, digits, or underscores.  Starts with a lowercase letter or an underscore.  Contain 6 to 64 characters.  Cannot be a keyword of the GaussDB(DWS) database.

Parameter	Mandatory	Туре	Description
user_pwd	Yes	String	Administrator password for logging in to a GaussDB(DWS) cluster
			• Contains 12 to 32 characters.
			<ul> <li>Contains at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters (~!?, .:;(){}[]/&lt;&gt;@# %^&amp;*+ \=).</li> </ul>
			Cannot be the username or the username spelled backwards.
public_ip	No	PublicIp object	Public IP address. If this parameter is not specified, the public network is not used by default.
number_of_cn	No	Integer	Number of deployed CNs. The value ranges from 3 to the number of cluster nodes. The maximum value is <b>20</b> and the default value is <b>3</b> .
tags	No	Tags object	Tags
enterprise_pro ject_id	No	String	Enterprise project ID. If no enterprise project is specified, the ID of the default enterprise project is used, that is, 0.

Table 5-7 PublicIp

Parameter	Mandatory	Туре	Description
public_bind_ty pe	Yes	String	Binding type of an EIP. The value can be one of the following:  • auto_assign  • not_use  • bind_existing
eip_id	No	String	EIP ID

Table 5-8 Tags

Parameter	Mandatory	Туре	Description
key	Yes	String	Key. A tag key can contain a maximum of 128 Unicode characters, which cannot be null. The first and last characters cannot be spaces. Only letters, digits, hyphens (-), and underscores (_) are allowed. It cannot contain the following characters: =*<> /
value	Yes	String	Value. A tag value can contain a maximum of 255 characters, which can be an empty string. It cannot start or end with a space. Only letters, digits, hyphens (-), and underscores (_) are allowed. It cannot contain the following characters: =*<> /

## **Response Parameters**

Status code: 200

**Table 5-9** Response body parameters

Parameter	Туре	Description
subscriptionsl D	String	Order ID.

## **Example Request**

Create a data warehouse cluster whose AZ is **az1.dc1**, node flavor is **dws.m1.xlarge.ultrahigh**, has three nodes, database port is **8000**, and public IP address, security group ID, subnet ID, and VPC ID are as follows:

```
POST https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters

{
    "cluster" : {
        "node_type" : "dws.m1.xlarge.ultrahigh",
        "number_of_node" : 3,
        "subnet_id" : "374eca02-cfc4-4de7-8ab5-dbebf7d9a720",
        "security_group_id" : "dc3ec145-9029-4b39-b5a3-ace5a01f772b",
        "vpc_id" : "85b20d7e-9eb7-4b2a-98f3-3c8843ea3574",
        "availability_zone" : "az1.dc1",
        "port" : 8000,
        "name" : "dws-1",
        "user_name" : "dbadmin",
```

```
"user_pwd" : "Passw0rd!",

"public_ip" : {

"public_bind_type" : "auto_assign",

"eip_id" : ""
},

"enterprise_project_id" : "aca4e50a-266f-4786-827c-f8d6cc3fbada"
}
```

## **Example Response**

#### Status code: 200

The cluster has been successfully created.

```
{
    "subscriptionsID" : "20240620061015193874426"
}
```

## **Status Code**

Status Code	Description
200	The cluster has been successfully created.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
500	Internal server error
503	Service unavailable.

## 5.2.2 Modifying the Security Group of a Cluster

## **Function**

This API is used to modify a cluster security group.

#### URI

PUT /v1/{project\_id}/clusters/{cluster\_id}/security-group

## Table 5-10 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

**Table 5-11** Request body parameters

Parameter	Mandatory	Туре	Description
security_grou ps	Yes	Array[String]	Security group ID array

## **Response Parameters**

None

## **Example Request**

Request for modifying a cluster security group:

```
PUT https://{Endpoint}/v1/05f2cff45100d5112f4bc00b794ea08a/clusters/58031bb5-7c1a-4449-a95f-3fbb6a91dfda/security-group
{
    "security_groups": [
    "b3c812cb-2d90-4d89-a3df-c5480d915e2e",
    "0fbe2c34-8123-42b5-955f-242229e9318e"
    ]
}
```

## **Example Response**

None

## **Status Code**

Status Code	Description
200	The cluster security group is modified successfully.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
500	Internal server error.
503	Service unavailable.

## 5.2.3 Creating a Cluster (V2)

## **Function**

This API is used to create a cluster. The cluster must run in a VPC. Before creating a cluster, you need to create a VPC and obtain the VPC and subnet IDs.

#### □ NOTE

This API is an asynchronous API. It takes 10 to 15 minutes to create a cluster.

## **URI**

POST /v2/{project\_id}/clusters

Table 5-12 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

## **Request Parameters**

Table 5-13 Request body parameters

Parameter	Mandatory	Туре	Description
cluster	No	V2CreateClus ter object	Request for creating a cluster

Table 5-14 V2CreateCluster

Paramete r	Mandato ry	Туре	Description
name	Yes	String	Cluster name, which must be unique. The cluster name must contain 4 to 64 characters, which must start with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed.
flavor	Yes	String	Cluster flavor name
num_cn	Yes	Integer	Number of CNs in the cluster. The value ranges from 2 to the number of cluster nodes. The maximum value is <b>20</b> and the default value is <b>3</b> .

Paramete r	Mandato ry	Туре	Description
num_nod e	Yes	Integer	Number of cluster nodes. For a cluster, the value ranges from 3 to 256. For a hybrid data warehouse (standalone), the value is 1.
db_name	Yes	String	Username of the administrator. The username must meet the following requirements:
			<ul> <li>Consists of only lowercase letters, digits, or underscores.</li> </ul>
			Starts with a lowercase letter or an underscore.
			Contains 6 to 64 characters.
			<ul> <li>Cannot be a keyword of the GaussDB(DWS) database.</li> </ul>
db_passw ord	Yes	String	Password of the administrator, which must meet the following requirements:
			Contains 12 to 32 characters.
			<ul> <li>Contains at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters (~!?, .:;(){}[]/&lt;&gt;@# %^&amp;*+  \=).</li> </ul>
			Cannot be the same as the username or the username written in reverse order.
db_port	Yes	Integer	Cluster database port. The value ranges from 8000 to 30000. The default value is <b>8000</b> .
dss_pool_i d	No	String	DSS storage pool ID.
availabilit y_zones	Yes	Array of String	List of AZs.  NOTE  Currently, only three AZs can be selected for a multi-AZ cluster.
tags	No	Array of Tags objects	Tags
vpc_id	Yes	String	VPC ID, which is used for configuring cluster network.
subnet_id	Yes	String	Subnet ID, which is used for configuring cluster network.

Paramete r	Mandato ry	Туре	Description
security_g roup_id	No	String	ID of a security group, which is used for configuring cluster network.
public_ip	No	PublicIp object	Public IP address. If the parameter is not specified, public connection is not used by default.
datastore _version	Yes	String	Cluster version
master_k ey_id	No	String	Key pair ID.
master_k ey_name	No	String	Key name.
crypt_alg orithm	No	String	Encryption algorithm
volume	No	<b>Volume</b> object	Disk information
enterprise _project_i d	No	String	Enterprise project. The default enterprise project ID is <b>0</b> .

Table 5-15 Tags

Paramete r	Mandato ry	Туре	Description
key	Yes	String	Key. A tag key can contain a maximum of 128 Unicode characters, which cannot be null. The first and last characters cannot be spaces. Only letters, digits, hyphens (-), and underscores (_) are allowed. It cannot contain the following characters: =*<> /
value	Yes	String	Value. A tag value can contain a maximum of 255 characters, which can be an empty string. It cannot start or end with a space. Only letters, digits, hyphens (-), and underscores (_) are allowed. It cannot contain the following characters: =*<> /

Table 5-16 PublicIp

Paramete r	Mandato ry	Туре	Description
public_bin d_type	Yes	String	Binding type of an EIP. The value can be one of the following:  • auto_assign  • not_use  • bind_existing
eip_id	No	String	EIP ID

Table 5-17 Volume

Paramete r	Mandato ry	Туре	Description
volume	No	String	Disk name. The options are as follows:  • SSD: Ultra-high I/O  • High I/O (SAS)  • Common I/O (SATA)
capacity	No	Integer	Disk capacity

## **Response Parameters**

Status code: 200

**Table 5-18** Response body parameter

Parameter	Туре	Description
subscriptionsl D	String	Order ID.

## **Example Request**

Create a multi-AZ data warehouse cluster with the following specifications: cluster version 8.2.1, AZs az1, az2, and az3, node flavor dws.m1.xlarge.ultrahigh, three nodes, SSD disk with 100 GB capacity, database port 8000, and public IP address, security Group ID, Subnet ID, VPC ID are as follows:

```
POST https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters

{
    "cluster" : {
        "flavor" : "dws.m1.xlarge.ultrahigh",
        "num_node" : 3,
```

```
"subnet_id": "374eca02-cfc4-4de7-8ab5-dbebf7d9a720",
"security_group_id": "dc3ec145-9029-4b39-b5a3-ace5a01f772b",
"vpc_id": "85b20d7e-9eb7-4b2a-98f3-3c8843ea3574",
"db_port" : 8000,
"datastore_version" : "8.2.1",
"availability_zones" : [ "az1", "az2", "az3" ],
"name" : "dws-1",
"num_cn": 3,
"db_name" : "dbadmin",
"db_password": "Passw0rd!",
"public_ip" : {
 "public_bind_type" : "auto_assign",
 "eip_id" : ""
"volume":{
 "volume":"SSD",
 "capacity":100
"enterprise_project_id" : "aca4e50a-266f-4786-827c-f8d6cc3fbada"
```

## **Example Response**

#### Status code: 200

The cluster has been successfully created.

```
{
    "subscriptionsID" : "20240620061015193874426"
}
```

#### **Status Code**

Status Code	Description
200	The cluster has been successfully created.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
500	Internal server error
503	Service unavailable.

# 5.2.4 Creating a Logical Cluster

#### **Function**

This API is used to create a logical cluster.

#### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/logical-clusters

**Table 5-19** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-20** Request body parameters

Parameter	Mandatory	Туре	Description
logical_cluster	Yes	CreateLogica lClusterInfo object	Information of the logical cluster.

Table 5-21 CreateLogicalClusterInfo

Parameter	Mandatory	Туре	Description
logical_cluster _name	Yes	String	Name of a logical cluster
cluster_rings	Yes	Array of ClusterRing objects	Ring information of the logical cluster.

Table 5-22 ClusterRing

Parameter	Mandatory	Туре	Description
ring_hosts	Yes	Array of RingHost objects	Cluster host information

Table 5-23 RingHost

Parameter	Mandatory	Туре	Description
host_name	Yes	String	Host name

Parameter	Mandatory	Туре	Description
back_ip	Yes	String	Backend IP address
cpu_cores	Yes	Integer	Number of host CPUs
memory	Yes	Double	Host memory
disk_size	Yes	Double	Disk size of the host

## **Response Parameters**

Status code: 200

**Table 5-24** Response body parameter

Parameter	Туре	Description
error_code	String	Error code
error_msg	String	Error message
retCode	String	Error code
retMessage	String	Error message
errCode	String	Error code
externalMess age	String	Error message

## **Example Request**

```
}]
}]
}
```

## **Example Response**

#### Status code: 200

The logical cluster is created.

```
{
    "errCode": "DWS.0000",
    "externalMessage": "Request successfully processed.",
    "error_code": "DWS.0000",
    "error_msg": "Request successfully processed.",
    "retCode": "DWS.0000",
    "retMessage": "Request successfully processed."
}
```

#### **Status Code**

Status Code	Description
200	The logical cluster is created.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
500	Internal server error.
503	Service unavailable.

# 5.2.5 Converting a Physical Cluster to a Logical Cluster

#### **Function**

This API is used to convert a physical cluster to a logical cluster.

#### URI

POST /v2/{project\_id}/clusters/{cluster\_id}/convert-to-logical-cluster/{name}

Table 5-25 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
name	Yes	String	Name of a logical cluster

None

## **Response Parameters**

Status code: 200

**Table 5-26** Response body parameter

Parameter	Туре	Description
error_code	String	Error code
error_msg	String	Error message

## **Example Request**

 $POST\ https://\{Endpoint\}/v2/9b06d044ea4f49f1a58b2bed2b0084bd/clusters/9b7ff56b-47b3-4d00-a1fd-4c023d34404b/convert-to-logical-cluster/elastic\_group$ 

## **Example Response**

Status code: 200

The cluster has been converted to a logical cluster.

```
{
    "error_code" : "DWS.0000",
    "error_msg" : null
}
```

#### **Status Code**

Status Code	Description
200	The cluster has been converted to a logical cluster.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.

Status Code	Description
500	Internal server error.
503	Service unavailable.

# 5.2.6 Querying the Cluster List

#### **Function**

This API is used to query and display the cluster list.

#### URI

GET /v1.0/{project\_id}/clusters

Table 5-27 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

## **Request Parameters**

None

## **Response parameters**

**Table 5-28** Response body parameter

Parameter	Туре	Description
clusters	Array of ClusterInfo objects	List of cluster objects
count	Integer	Total number of cluster objects

Table 5-29 ClusterInfo

Parameter	Туре	Description
id	String	Cluster ID
name	String	Cluster name
status	String	Cluster status. The value can be one of the following:  CREATING: The cluster is being created.  ACTIVE: The cluster is available.  FAILED: The cluster is unavailable.  CREATION FAILED  DELETING: The cluster is being deleted.  DELETION FAILED: The deletion fails.  DELETED: The cluster is deleted.  STOPING: The task is being stopped.  STOPPED: The job has been stopped.  STARTING: The job is starting.  FROZEN: The cluster is frozen.  NOTE  If the query result is AVAILABLE, the service is available.
version	String	Data warehouse version
updated	String	Last modification time of a cluster. Format: ISO8601:YYYY-MM-DDThh:mm:ssZ
created	String	Cluster creation time. Format: ISO8601:YYYY-MM-DDThh:mm:ssZ
port	Integer	Cluster service port.
endpoints	Array of Endpoints objects	Private network connection information about the cluster.
nodes	Array of Nodes objects	Cluster instance
tags	Array of <b>Tags</b> objects	Cluster tag
user_name	String	Administrator user name
number_of_n ode	Integer	Number of nodes in a cluster
recent_event	Integer	Number of events
availability_zo ne	String	AZ

Parameter	Туре	Description
enterprise_pro ject_id	String	Enterprise project ID. The value <b>0</b> indicates the ID of the default enterprise project.
node_type	String	Node type.
vpc_id	String	VPC ID,
subnet_id	String	Subnet ID,
public_ip	PublicIp object	Public IP address. If the parameter is not specified, public connection is not used by default.
public_endpoi nts	Array of PublicEndpoi nts objects	Public network connection information about the cluster. If the parameter is not specified, the public network connection information is not used by default.

Parameter	Туре	Description
action_progre ss	Map <string,st ring&gt;</string,st 	Task information, consisting of a key and a value. The key indicates an ongoing task, and the value indicates the progress of the ongoing task. Valid key values include:
		• CREATING
		RESTORING
		• SNAPSHOTTING
		• GROWING
		REBOOTING
		SETTING_CONFIGURATION
		CONFIGURING_EXT_DATASOURCE
		• ADD_CN_ING: A CN is being added.
		• <b>DEL_CN_ING</b> : A CN is being deleted.
		REDISTRIBUTING
		ELB_BINDING: Associating ELB
		ELB_UNBINDING: Disassociating ELB
		ELB_SWITCHING: Switching ELB nodes
		<ul> <li>NETWORK_CONFIGURING: The network is being configured.</li> </ul>
		<ul> <li>DISK_EXPANDING: The disk capacity is being expanded.</li> </ul>
		<ul> <li>ACTIVE_STANDY_SWITCHOVER: The active-standby switchover is being performed.</li> </ul>
		CLUSTER_SHRINKING: The cluster is being scaled in.
		• <b>SHRINK_CHECKING</b> : Scale-in detection is in progress.
		• FLAVOR_RESIZING: The instance flavor is being changed.
		<ul> <li>MANAGE_IP_BINDING: Login is being enabled.</li> </ul>
		• <b>FINE_GRAINED_RESTORING</b> : Fine-grained restoration is in progress.
		<ul> <li>DR_RECOVERING: DR recovery is in progress.</li> </ul>
		• REPAIRING
		An example is as follows: "action_progress": {"SNAPSHOTTING":"16%"}

Parameter	Туре	Description
sub_status	String	Sub-status of clusters in the AVAILABLE state. The value can be one of the following:  NORMAL READONLY REDISTRIBUTING REDISTRIBUTION-FAILURE UNBALANCED UNBALANCED   READONLY DEGRADED   READONLY DEGRADED   READONLY UNBALANCED   REDISTRIBUTION-FAILURE UNBALANCED   REDISTRIBUTION-FAILURE READONLY   REDISTRIBUTION-FAILURE READONLY   REDISTRIBUTION-FAILURE UNBALANCED   READONLY   REDISTRIBUTION-FAILURE DEGRADED   UNBALANCED   REDISTRIBUTION-FAILURE DEGRADED   UNBALANCED   READONLY   REDISTRIBUTION-FAILURE DEGRADED   UNBALANCED   READONLY   REDISTRIBUTION-FAILURE DEGRADED   UNBALANCED   READONLY   REDISTRIBUTION-FAILURE

task_status Stri	_	
		Cluster management task. The value can be one of the following:  UNFREEZING  FREEZING  RESTORING  SNAPSHOTTING  GROWING  REBOOTING  SETTING_CONFIGURATION  CONFIGURING_EXT_DATASOURCE  DELETING_EXT_DATASOURCE  REBOOT_FAILURE  RESIZE_FAILURE  ADD_CN_ING: A CN is being added.  DEL_CN_ING: A CN is being deleted.  CREATE_NODE_FAILED: Failed to add the node.  DELETING_NODE: Delete a node.  DELETE_NODE_FAILED: Failed to delete the node.  REDISTRIBUTING  REDISTRIBUTE_FAILURE: The redistribution failed.  WAITING_REDISTRIBUTION: Waiting to be redistributed  REDISTRIBUTION_PAUSED: Redistribution is paused.  ELB_BIND_FAILED: Failed to associate ELB  ELB_UNBINDING: ELB is being bound.  ELB_BIND_FAILED: Failed to disassociate ELB  ELB_UNBIND_FAILED: Failed to disassociate ELB.  ELB_SWITCHING: ELB nodes are being switched.  ELB_SWITCHING_FAILED: Failed to switch ELB nodes.  NETWORK_CONFIGURING: The network is being configured.

Parameter	Туре	Description
		DISK_EXPAND_FAILED: Failed to expand the disk capacity.
		DISK_EXPANDING: The disk capacity is being expanded.
		ACTIVE_STANDY_SWITCHOVER: The active-standby switchover is being performed.
		• ACTIVE_STANDY_SWITCHOVER_FAILURE: The active-standby switchover failed.
		CLUSTER_SHRINK_FAILED: Failed to scale- in.
		• <b>CLUSTER_SHRINKING</b> : The cluster is being scaled in.
		SHRINK_CHECK_FAILED: The scale-in detection failed.
		• <b>SHRINK_CHECKING</b> : Scale-in detection is in progress.
		<ul> <li>FLAVOR_RESIZING_FAILED: Failed to change the flavor.</li> </ul>
		• <b>FLAVOR_RESIZING</b> : The instance flavor is being changed.
		MANAGE_IP_BIND_FAILED: Failed to enable login.
		MANAGE_IP_BINDING: Login is being enabled.
		• <b>FINE_GRAINED_RESTORING</b> : Fine-grained restoration is in progress.
		DR_RECOVERING: DR recovery is in progress.
security_grou p_id	String	Security group ID
failed_reasons	FailedReason object	Cause of failure. If the parameter is left empty, the cluster is in the normal state.

## Table 5-30 Endpoints

Parameter	Туре	Description
connect_info	String	Private network connection information
jdbc_url	String	Intranet JDBC URL. The default format is jdbc:postgresql:// <connect_info>/ &lt; YOUR_DATABASE_NAME&gt;</connect_info>

Table 5-31 Nodes

Parameter	Туре	Description	
id	String	Cluster instance ID	
status	String	Cluster instance status	
		• <b>100</b> : Creating	
		• <b>199</b> : Idle	
		• 200: Available	
		• 300: Unavailable	
		303: Creation failed.	
		• 304: Deleting	
		305: Deletion failed.	
		• <b>400</b> : Deleted	

## Table 5-32 Tags

Parameter	Туре	Description
key	String	Key. A tag key can contain a maximum of 128 characters. It cannot be an empty string or start or end with a space. Only letters, digits, hyphens (-), and underscores (_) are allowed. It cannot contain the following characters:  =*<> /
value	String	Value. A tag value can contain a maximum of 255 characters, which can be an empty string. It cannot start or end with a space. Only letters, digits, hyphens (-), and underscores (_) are allowed. It cannot contain the following characters: =*<> /

Table 5-33 PublicIp

Parameter	Туре	Description	
public_bind_ty pe	String	Binding type of an EIP. The value can be one of the following:	
		auto_assign	
		• not_use	
		bind_existing	
eip_id	String	EIP ID	

Table 5-34 PublicEndpoints

Parameter	Туре	Description
public_connec t_info	String	Public network connection information
jdbc_url	String	Public network JDBC URL. The default format is <b>jdbc:postgresql://<public_connect_info>/</public_connect_info></b> < YOUR_DATABASE_name>.

#### Table 5-35 FailedReason

Parameter	Туре	Description
error_code	String	Error code
error_msg	String	Error message

#### **Example Request**

GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters

#### **Example Response**

#### Status code: 200

The cluster list is queried successfully.

#### □ NOTE

The query result obtained by this API in Huawei Cloud Stack may be different from that in the example.

```
"clusters" : [ {
 "id": "7d85f602-a948-4a30-afd4-e84f47471c15",
"name" : "dws-1",
"status" : "AVAILABLE",
"version" : "1.2.0",
"updated" : "2016-02-10T14:28:14Z", 
"created" : "2016-02-10T14:26:14Z",
 "port": 8000,
 "endpoints" : [ {
  "connect_info" :"192.168.0.10:8000",
   "jdbc_url": "jdbc:postgresql://192.168.0.10:8000/<YOUR_DATABASE_name>"
} ],
 "nodes" : [ {
  "id": "acaf62a4-41b3-4106-bf6b-2f669d88291e",
  "status" : "200"
}, {
    "id" : "d32de51e-4fcd-4e5a-a9dc-bb903abb494b",
  "status" : "200"
}, {
"id": "d71a4a25-c9bc-4ffd-9f4a-e422aef327f9",
  "status" : "200"
 }],
 "tags" : [ {
  "key": "key1",
```

```
"value": "value1"
}, {
"key" : "key2",
 "value" : "value2"
}],
"user_name" : "dbadmin",
"number_of_node" : 3,
"recent_event": 6,
"availability_zone": "az1.dc1",
"enterprise_project_id": "0",
"node_type" : "dws.d1.xlarge.ultrahigh",
"vpc_id": "85b20d7e-9eb7-4b2a-98f3-3c8843ea3574",
"subnet_id": "374eca02-cfc4-4de7-8ab5-dbebf7d9a720",
"public_ip" : {
  "public_bind_type" : "auto_assign",
 "eip_id" : "85b20d7e-9eb7-4b2a-98f3-3c8843ea3574"
,,
"public_endpoints" : [ {
    "public_connect_info" : "10.0.0.8:8000",
 "jdbc_url": "jdbc:postgresql://192.168.0.10:8000/<YOUR_DATABASE_name>"
"action_progress" : {
 "SNAPSHOTTING" : "20%"
"sub_status" : "READONLY",
"task_status" : "SNAPSHOTTING",
"security_group_id" : "dc3ec145-9029-4b39-b5a3-ace5a01f772b"
```

#### **Status Code**

Status Code	Description
200	The cluster list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.7 Querying the Logical Cluster List

#### **Function**

This API is used to query the logical cluster list.

#### **URI**

GET /v2/{project\_id}/clusters/{cluster\_id}/logical-clusters

**Table 5-36** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-37** Query parameters

Parameter	Mandatory	Туре	Description
offset	No	Integer	Offset for the pagination query
limit	No	Integer	Number of records displayed on each page of the pagination query

None

## **Response Parameters**

**Table 5-38** Response body parameter

Parameter	Туре	Description
logical_cluster s	Array of LogicalCluste rInfo objects	Logical cluster list.
count	Integer	Total number of logical clusters.
add_enable	Boolean	Whether a logical cluster can be added. If other O&M operations are performed in the cluster, the value is <b>false</b> . In this case, the logical cluster cannot be added. <b>true</b> indicates that a logical cluster can be added.
error_code	String	Error code.
error_msg	String	Error message.

Table 5-39 LogicalClusterInfo

Parameter	Туре	Description
logical_cluster _id	String	ID of the logical cluster
logical_cluster _name	String	Name of a logical cluster
cluster_rings	Array of ClusterRing objects	Host information of the logical cluster
status	String	Status of the logical cluster
first_logical_cl uster	Boolean	Whether the cluster is the first logical cluster. The first created or converted logical cluster cannot be deleted because it contains some system views.
action_info	ActionInfo object	Operation information about the logical cluster
edit_enable	Boolean	Whether editing is allowed.
restart_enable	Boolean	Whether restart is allowed.
delete_enable	Boolean	Whether deletion is allowed.
add_to_elastic	Boolean	Whether autoscaling is allowed.
mode	String	Logical cluster mode
waiting_for_ki lling	Integer	Waiting to be destroyed.
cluster_type	String	Cluster type

Table 5-40 ClusterRing

Parameter	Туре	Description
ring_hosts	Array of RingHost objects	Cluster host information

Table 5-41 RingHost

Parameter	Туре	Description
host_name	String	Host name
back_ip	String	Backend IP address

Parameter	Туре	Description
cpu_cores	Integer	Number of host CPUs
memory	Double	Host memory
disk_size	Double	Disk size of the host

#### Table 5-42 ActionInfo

Parameter	Туре	Description
action_name	String	Operation name. Currently, the following operations are allowed:
		Create
		• Expand
		Restart
		Delete
		Shrink
progress	Integer	Operation progress. The default value is <b>10</b> .
completed	Boolean	Whether an operation is complete.
start_time	String	Start time of an operation
end_time	String	End time of an operation
result	String	Operation result. The value can be <b>success</b> or <b>failed</b> . The default value is an empty string.
logs	String	Operation logs

## **Example Request**

 $\label{lem:general} $$\operatorname{GET\ https://\{Endpoint\}/v2/9b06d044ea4f49f1a58b2bed2b0084bd/clusters/9b7ff56b-47b3-4d00-a1fd-4c023d34404b/logical-clusters}$$ 

## **Example Response**

#### Status code: 200

The cluster list is queried successfully.

```
"host_name": "host-10-0-0-1",
               "back_ip": "10.0.0.1",
"cpu_cores": 4,
                "memory": 32,
"disk_size": 200
            },
            {
                "host_name": "host-10-0-0-2",
                "back_ip": "10.0.0.2",
                "cpu_cores": 4,
                "memory": 32,
"disk_size": 200
            },
                "host_name": "host-10-0-0-3",
                "back_ip": "10.0.0.3",
                "cpu_cores": 4,
                "memory": 32,
"disk_size": 200
            }
         ]
      }
   ],
   "status": "Normal",
   "first_logical_cluster": false,
   "action_info": {
      "progress": 100,
      "completed": true,
      "result": "success",
"logs": null,
      "action_name": "Grow",
      "start_time": "2024-04-13 07:17:49",
"end_time": "2024-04-13 07:33:23"
   "edit_enable": true,
   "restart_enable": true,
   "delete_enable": false,
   "add_to_elastic": true,
   "base_vw": false,
   "waiting_for_killing": 0
},
{
   "logical_cluster_id": "77782e65-7cfb-4e2d-a418-8777503644b7",
   "logical_cluster_name": "rrtjj",
   "cluster_rings": [
      {
         "ring_hosts": [
            {
                "host_name": "host-10-0-0-4",
               "back_ip": "10.0.0.4",
"cpu_cores": 4,
               "memory": 32,
                "disk_size": 200
            {
                "host_name": "host-10-0-0-5",
                "back_ip": "10.0.0.5",
                "cpu_cores": 4,
               "memory": 32,
                "disk_size": 200
            {
                "host_name": "host-10-0-0-6",
                "back_ip": "10.0.0.6",
                "cpu_cores": 4,
               "memory": 32,
"disk_size": 200
            }
```

```
"status": "Normal",
         "first_logical_cluster": true,
         "action_info": {
    "progress": 100,
            "completed": true,
            "result": "success",
"logs": "......\ncm_ctl: stop instance successfully!\n.....\ncm_ctl: start instance
successfully.\ncm_ctl: restart the rrtjj successful.",
             "action_name": "Restart",
            "start_time": "2024-04-13 08:00:32",
            "end_time": "2024-04-13 08:00:57"
         "edit_enable": true,
         "restart_enable": true,
         "delete_enable": false,
         "add_to_elastic": true,
         "base_vw": true,
         "waiting_for_killing": 0
     }
  ],
"count": 2,
   "add_enable": true
```

#### **Status Code**

Status Code	Description
200	The cluster list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.8 Querying Task Information About a Logical Cluster

#### **Function**

This API is used to query information about a logical cluster task.

#### **URI**

GET /v2/{project\_id}/clusters/{cluster\_id}/logical-clusters/tasks

**Table 5-43** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-44** Query parameters

Parameter	Mandatory	Туре	Description
offset	No	Integer	Offset for the pagination query
limit	No	Integer	Number of records displayed on each page of the pagination query
logical_cluster _name	No	String	Cluster name
type	No	String	Туре
order_by	No	String	Sorting field
order	No	String	Sorting order (ascending or descending)

None

## **Response Parameters**

**Table 5-45** Response body parameter

Parameter	Туре	Description
logical_cluster _tasks	Array of LogicalClusterTaskInfo objects	Task information of a logical cluster
count	Long	Total number of tasks in a logical cluster

Table 5-4	LogicalCluster	TaskInfo
-----------	----------------	----------

Parameter	Туре	Description
type	String	Task type
logical_cluster _name	String	Name of a logical cluster
start_time	String	Task start time
end_time	String	Task end time
result	String	Task execution result
log	String	Task execution log

#### **Example Request**

GET https://{Endpoint}/v2/9b06d044ea4f49f1a58b2bed2b0084bd/clusters/9b7ff56b-47b3-4d00-a1fd-4c023d34404b/logical-clusters/tasks?
offset=0&limit=10&logical\_cluster\_name=test\_logical&type=Expand&order\_by=startTime&order=DESC

#### **Example Response**

#### Status code: 200

The task information is queried.

```
{
  "logical_cluster_tasks" : [ {
    "type" : "Grow",
    "logical_cluster_name" : "elastic_group",
    "start_time" : "2023-06-05 01:58:43",
    "end_time" : "2023-06-05 02:11:50",
    "result" : "success",
    "log" : "Expand from outside success"
}, {
    "type" : "Create",
    "logical_cluster_name" : "test_logical",
    "start_time" : "2023-06-21 08:35:58",
    "end_time" : "2023-06-21 08:36:14",
    "result" : "failed",
    "log" : "list index out of range\\nChecking whether the reentry command is consistent with the previous command."
} ],
    "count" : 2
}
```

#### **Status Code**

Status Code	Description
200	Querying task information.
400	Request error.
401	Authentication failed.

Status Code	Description
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.9 Querying Disk Information of a Logical Cluster

#### **Function**

This API is used to query information about disks in a logical cluster.

#### **URI**

GET /v2/{project\_id}/clusters/{cluster\_id}/logical-clusters/volumes

Table 5-47 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-48** Query parameters

Parameter	Mandatory	Туре	Description
offset	No	Integer	Offset for the pagination query
limit	No	Integer	Number of records displayed on each page of the pagination query

## **Request Parameters**

None

## **Response Parameters**

Status code: 200

**Table 5-49** Response body parameter

Parameter	Туре	Description
volumes	Array of LogicalCluste rVolume objects	Disk information list of the logical cluster
count	Long	Total number of disks in the logical cluster
error_code	String	Error code
error_msg	String	Error message

**Table 5-50** LogicalClusterVolume

Parameter	Туре	Description
logical_cluster _name	String	Name of the logical cluster
usage	String	Storage space usage
total	String	Disk capacity
percent	String	Disk usage

## **Example Request**

GET https://{Endpoint}/v2/9b06d044ea4f49f1a58b2bed2b0084bd/clusters/9b7ff56b-47b3-4d00-a1fd-4c023d34404b/logical-clusters/volumes

## **Example Response**

Status code: 200

The cluster disk information is queried.

```
"logical_cluster_name": "rrtjj"
}
],
"count": 2
}
```

#### **Status Code**

Status Code	Description
200	Querying cluster disk information
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.10 Querying the Node List

## **Function**

This API is used to query the node list.

#### **URI**

GET /v2/{project\_id}/clusters/{cluster\_id}/nodes

Table 5-51 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.

**Table 5-52** Query parameters

Parameter	Mandatory	Туре	Description
deleted	No	String	Whether the object is deleted. The value can be <b>true</b> or <b>false</b> .
node_ids	No	Array	List of node IDs
offset	No	Integer	Offset for the pagination query
limit	No	Integer	Number of records displayed on each page of the pagination query
filter_by	No	String	Filter field
filter	No	String	Content of the filter field
order_by	No	String	Sorting field
order	No	String	Sorting order (ascending or descending)

None

## **Response Parameters**

**Table 5-53** Response body parameter

Parameter	Туре	Description
node_list	Array of ClusterNodel nfo objects	List of nodes in a logical cluster
count	Integer	Total number of nodes in a logical cluster
failed_count	Integer	Total number of failed nodes in a logical cluster

Table 5-54 ClusterNodeInfo

Parameter	Туре	Description
id	String	Node ID

Parameter	Туре	Description
name	String	Node name
status	String	Node status
sub_status	String	Node sub-status
spec	String	Node specifications
inst_create_ty pe	String	Instance creation type
alias_name	String	Node alias
az_code	String	AZ code

## **Example Request**

GET https://{Endpoint}/v2/9b06d044ea4f49f1a58b2bed2b0084bd/clusters/9b7ff56b-47b3-4d00-a1fd-4c023d34404b/nodes?deleted=false&node\_ids&offset=0&limit=10&filter\_by=instCreateType&filter=INST

## **Example Response**

#### Status code: 200

The cluster node information is queried.

```
{
    "node_list" : [ {
        "id" : "16413746-258e-4a3c-bea9-8496fdbefde3",
        "name" : "ty-default--BGy6PUIN-K-dws-cn-cn-2-1",
        "status" : "ACTIVE",
        "sub_status" : "CREATED",
        "spec" : "dws2.kc1.2xlarge",
        "inst_create_type" : null,
        "alias_name" : null,
        "az_code" : "az1.dc1"
        }, {
        "id" : "46d8754b-3ed3-4b92-85b5-7479ef5b10ac",
        "name" : "ty-default--BGy6PUIN-K-dws-cn-cn-1-1",
        "status" : "ACTIVE",
        "sub_status" : "CREATED",
        "spec" : "dws2.kc1.2xlarge",
        "inst_create_type" : null,
        "alias_name" : null,
        "az_code" : "az1.dc1"
        } ],
        "count" : 2,
        "failed_count" : 0
}
```

#### **Status Code**

Status Code	Description
200	The cluster node information is queried.
400	Request error.

Status Code	Description
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.11 Querying Information About Available Ring Nodes in a Logical Cluster

#### **Function**

This API is used to query information about available ring nodes in a logical cluster.

#### URI

GET /v2/{project\_id}/clusters/{cluster\_id}/logical-clusters/rings

Table 5-55 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-56** Query parameters

Parameter	Mandatory	Туре	Description
offset	No	Integer	Offset for the pagination query
limit	No	Integer	Number of records displayed on each page of the pagination query

None

## **Response Parameters**

**Table 5-57** Response body parameter

Parameter	Туре	Description
cluster_rings	Array of LogicalCluste rRingInfo objects	List of cluster rings
unshrinkable_ cluster_rings	Array of LogicalCluste rRingInfo objects	Cluster rings that cannot be scaled in
count	Integer	Number of cluster rings
error_code	String	Error code
error_msg	String	Error message

Table 5-58 LogicalClusterRingInfo

Parameter	Туре	Description
ring_hosts	Array of RingHost objects	Cluster host ring information

**Table 5-59** RingHost

Parameter	Туре	Description
host_name	String	Host name
back_ip	String	Backend IP address
cpu_cores	Integer	Number of host CPUs
memory	Double	Host memory
disk_size	Double	Disk size of the host

#### **Example Request**

 $GET\ https://\{Endpoint\}/v2/9b06d044ea4f49f1a58b2bed2b0084bd/clusters/9b7ff56b-47b3-4d00-a1fd-4c023d34404b/logical-clusters/rings$ 

## **Example Response**

#### Status code: 200

Information about available ring nodes in a logical cluster is queried.

```
"error_code": "DWS.0000",
"error_msg": null,
"cluster_rings": [
   {
      "ring_hosts": [
            "host_name": "host-10-0-0-1",
            "back_ip": "10.0.0.1",
            "cpu_cores": 4,
            "memory": 32,
"disk_size": 200
            "host_name": "host-10-0-0-2",
            "back_ip": "10.0.0.2",
            "cpu_cores": 4,
            "memory": 32,
"disk_size": 200
            "host_name": "host-10-0-0-3",
            "back_ip": "10.0.0.3",
            "cpu_cores": 4,
            "memory": 32,
            "disk_size": 200
      ]
  }
],
"count": 1,
"unshrinkable_cluster_rings": null
```

#### **Status Code**

Status Code	Description
200	Information about available ring nodes in a logical cluster is queried.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.12 Querying Information About Ring Nodes in a Cluster Topology

#### **Function**

This API is used to query ring node information in a cluster topology.

#### **URI**

GET /v2/{project\_id}/clusters/{cluster\_id}/topo/rings

Table 5-60 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

Table 5-61 Query parameters

Parameter	Mandatory	Туре	Description
offset	No	Integer	Offset for the pagination query
limit	No	Integer	Number of records displayed on each page of the pagination query

## **Request Parameters**

None

## **Response Parameters**

**Table 5-62** Response body parameter

Parameter	Туре	Description
cluster_rings	Array of TopoRingInfo objects	List of rings in the cluster topology
count	Integer	Number of cluster rings

#### **Table 5-63** TopoRingInfo

Parameter	Туре	Description
instance_info_ lists	Array of Topolnstance Info objects	List of cluster instances

#### **Table 5-64** TopoInstanceInfo

Parameter	Туре	Description
id	String	Instance ID
name	String	Instance name
manage_ip	String	Instance management IP address
traffic_ip	String	Service IP address
internal_ip	String	Internal communication IP address
internal_mgnt _ip	String	Internal management IP address
eip	String	EIP
elb	String	ELB address
status	String	Instance status
az_code	String	AZ code

## **Example Request**

 $\label{lem:GET https://Endpoint} $$\operatorname{GET https://Endpoint}/v2/9b06d044ea4f49f1a58b2bed2b0084bd/clusters/9b7ff56b-47b3-4d00-a1fd-4c023d34404b/logical-clusters/rings$ 

## **Example Response**

Status code: 200

The ring node information of the cluster topology is queried.

```
"cluster_rings" : [ {
  "instance_info_lists" : [ {
    "id" : "a57e49db-c04b-45c7-9863-f7b6f3eed1b8",
    "name" : "ty-default--BGy6PUIN-K-dws-cn-cn-1-1",
   "manage_ip" : "172.16.26.233",
"traffic_ip" : "192.168.0.217",
    "internal_ip" : "172.16.66.153",
"internal_mgnt_ip" : null,
    "eip" : null,
    "elb" : null,
    "status" : 200,
    "az_code" : "az1.dc1"
    "id": "3a37f794-be37-42d1-a299-a3eb94888ccb",
    "name": "ty-default--BGy6PUIN-K-dws-cn-cn-2-1",
   "manage_ip" : "172.16.34.21",
"traffic_ip" : "192.168.0.80",
"internal_ip" : "172.16.65.89",
    "internal_mgnt_ip" : null,
    "eip" : null,
"elb" : null,
   "status" : 200,
"az_code" : "az1.dc1"
 }, {
    "id" : "8763cbf1-5851-44a5-9e71-cbae35201f27",
    "name": "ty-default--BGy6PUIN-K-dws-dn-1-1",
   "manage_ip" : "172.16.9.16",
"traffic_ip" : "192.168.0.88",
"internal_ip" : "172.16.67.64",
    "internal_mgnt_ip" : null,
    "eip" : null,
"elb" : null,
   "status" : 200,
    "az_code" : "az1.dc1"
 }]
}],
"count" : 1
```

#### **Status Code**

Status Code	Description
200	The ring node information of the cluster topology is queried.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.13 Querying Cluster Details

## **Function**

This API is used to query cluster details.

#### **URI**

GET /v1.0/{project\_id}/clusters/{cluster\_id}

**Table 5-65** URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID For details about how to obtain the ID, see  Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

## Request

None

## **Response Parameters**

Status code: 200

**Table 5-66** Response body parameters

Parameter	Туре	Description
cluster	<b>ClusterDetail</b> object	Cluster object

#### Table 5-67 ClusterDetail

Parameter	Туре	Description
id	String	Cluster ID
name	String	Cluster name

Parameter	Туре	Description
status	String	Cluster status. The value can be one of the following:  CREATING: The instance is being created.  ACTIVE: The instance is available.  FAILED: The instance is unavailable.  CREATE_FAILED: The instance failed to be created.  DELETING: The instance is being deleted.  DELETE_FAILED: The instance failed to be deleted.  DELETED: The instance is deleted.  FROZEN: The instance is being frozen.  NOTE  If the query result is AVAILABLE, the service is available.
version	String	Data warehouse version
updated	String	Last modification time of a cluster. Format: ISO8601:YYYY-MM-DDThh:mm:ssZ
created	String	Cluster creation time. Format: ISO8601: YYYY-MM-DDThh:mm:ssZ
port	Integer	Cluster service port.
endpoints	Array of Endpoints objects	Private network connection information about the cluster.
nodes	Array of Nodes objects	Cluster instance
tags	Array of <b>Tags</b> objects	Cluster tag
user_name	String	Administrator username
number_of_n ode	Integer	Number of nodes in a cluster
recent_event	Integer	Number of events
availability_zo ne	String	AZ
enterprise_pro ject_id	String	Enterprise project ID. The value <b>0</b> indicates the ID of the default enterprise project.
node_type	String	Node type .
vpc_id	String	VPC ID

Parameter	Туре	Description
subnet_id	String	Subnet ID
subnet_ids	Array of String objects	Subnet IDs
public_ip	PublicIp object	Public IP address. If the parameter is not specified, public connection is not used by default.
public_endpoi nts	Array of PublicEndpoi nts objects	Public network connection information about the cluster. If the parameter is not specified, the public network connection information is not used by default.

action_progre ss  Map <string>  The key indicates an ongoing task. The value can be one of the following:  CREATING  RESTORING  SNAPSHOTTING  GROWING  REBOOTING  SETTING_CONFIGURATION  CONFIGURING_EXT_DATASOURCE  ADD_CN_ING: A CN is being added.  DEL_CN_ING: A CN is being added.  REDISTRIBUTING  ELB_BINDING: ELB is being bound.  ELB_SWITCHING: ELB is being unbound.  ELB_SWITCHING: ELB nodes are being switched.  NETWORK_CONFIGURING: The network is being configured.  DISK_EXPANDING: The disk capacity is being expanded.  ACTIVE_STANDY_SWITCHOVER: The active-standby switchover is being performed.  CLUSTER_SHRINKING: The cluster is being scaled in.  SHRINK_CHECKING: Scale-in detection is in progress.  FLAVOR_RESIZING: The instance flavor is being changed.  MANAGE_IP_BINDING: Login is being enabled.  FINE_GRAINED_RESTORING: Fine-grained restoration is in progress.  DR_RECOVERING: DR recovery is in progress.  REPAIRING  The value indicates the task progress.</string>	can be one of the following:  CREATING  RESTORING  SNAPSHOTTING  GROWING
	<ul> <li>CONFIGURING_EXT_DATASOURCE</li> <li>ADD_CN_ING: A CN is being added.</li> <li>DEL_CN_ING: A CN is being deleted.</li> <li>REDISTRIBUTING</li> <li>ELB_BINDING: ELB is being bound.</li> <li>ELB_SWITCHING: ELB is being unbound.</li> <li>ELB_SWITCHING: ELB nodes are being switched.</li> <li>NETWORK_CONFIGURING: The network is being configured.</li> <li>DISK_EXPANDING: The disk capacity is being expanded.</li> <li>ACTIVE_STANDY_SWITCHOVER: The active-standby switchover is being performed.</li> <li>CLUSTER_SHRINKING: The cluster is being scaled in.</li> <li>SHRINK_CHECKING: Scale-in detection is in progress.</li> <li>FLAVOR_RESIZING: The instance flavor is being changed.</li> <li>MANAGE_IP_BINDING: Login is being enabled.</li> <li>FINE_GRAINED_RESTORING: Fine-grained restoration is in progress.</li> <li>DR_RECOVERING: DR recovery is in progress.</li> </ul>

Parameter	Туре	Description
sub_status	String	Sub-status of clusters in the AVAILABLE state. The value can be one of the following:  NORMAL READONLY REDISTRIBUTING REDISTRIBUTION-FAILURE UNBALANCED UNBALANCED   READONLY DEGRADED   READONLY DEGRADED   UNBALANCED UNBALANCED   REDISTRIBUTING UNBALANCED   REDISTRIBUTION-FAILURE READONLY   REDISTRIBUTION-FAILURE READONLY   REDISTRIBUTION-FAILURE UNBALANCED   READONLY   REDISTRIBUTION-FAILURE DEGRADED   UNBALANCED   REDISTRIBUTION-FAILURE DEGRADED   UNBALANCED   REDISTRIBUTION-FAILURE DEGRADED   UNBALANCED   READONLY   REDISTRIBUTION-FAILURE DEGRADED   UNBALANCED   READONLY   REDISTRIBUTION-FAILURE

Cluster management task. The value can be one of the following:  UNFREEZING  FREEZING  FREEZING  RESTORING  SNAPSHOTTING  GROWING  REBOOTING  SETTING_CONFIGURATION  CONFIGURING_EXT_DATASOURCE  DELETING_EXT_DATASOURCE  REBOOT_FAILURE  RESIZE_FAILURE  ADD_CN_ING: A CN is being added.  DEL_CN_ING: A CN is being deleted.  CREATING_NODE: Add a node.  CREATE_NODE_FAILED: Failed to add the node.  DELETING_NODE: Delete a node.  DELETING_NODE: Delete a node.  DELETE_NODE_FAILED: Failed to delete the node.  REDISTRIBUTING  REDISTRIBUTING  REDISTRIBUTE_FAILURE: Redistribution failed.  WAITING_REDISTRIBUTION: Waiting to be redistributed  REDISTRIBUTION_PAUSED: Redistribution is paused.  ELB_BINDING: ELB is being bound.  ELB_BIND_FAILED: Failed to associate ELB  ELB_UNBINDING: ELB is being unbound.
<ul> <li>ELB_UNBIND_FAILED: Failed to disassociate ELB.</li> <li>ELB_SWITCHING: ELB nodes are being switched.</li> <li>ELB_SWITCHING_FAILED: Failed to switch ELB nodes.</li> <li>NETWORK_CONFIGURING: The network is</li> </ul>

Parameter	Туре	Description
		DISK_EXPAND_FAILED: Failed to expand the disk capacity.
		• <b>DISK_EXPANDING</b> : The disk capacity is being expanded.
		<ul> <li>ACTIVE_STANDY_SWITCHOVER: The active-standby switchover is being performed.</li> </ul>
		• ACTIVE_STANDY_SWITCHOVER_FAILURE: The active-standby switchover failed.
		CLUSTER_SHRINK_FAILED: Failed to scale- in.
		• <b>CLUSTER_SHRINKING</b> : The cluster is being scaled in.
		SHRINK_CHECK_FAILED: The scale-in detection failed.
		• <b>SHRINK_CHECKING</b> : Scale-in detection is in progress.
		<ul> <li>FLAVOR_RESIZING_FAILED: Failed to change the flavor.</li> </ul>
		• <b>FLAVOR_RESIZING</b> : The instance flavor is being changed.
		MANAGE_IP_BIND_FAILED: Failed to enable login.
		MANAGE_IP_BINDING: Login is being enabled.
		• <b>FINE_GRAINED_RESTORING</b> : Fine-grained restoration is in progress.
		• <b>DR_RECOVERING</b> : DR recovery is in progress.
parameter_gr oup	ParameterGr oup object	Parameter group details
node_type_id	String	Node type ID
security_grou p_id	String	Security group ID
private_ip	Array of strings	List of private network IP addresses
maintain_win dow	MaintainWin dow object	Cluster maintenance window
resize_info	ResizeInfo object	Cluster scale-out details

Parameter	Туре	Description
failed_reasons	FailedReason object	Cause of failure. If the parameter is left empty, the cluster is in the normal state.
elb	<b>ElbResp</b> object	ELB bound to the cluster
flavor_detail	FlavorDetail object	Flavor details

# Table 5-68 Endpoints

Parameter	Туре	Description
connect_info	String	Private network connection information
jdbc_url	String	Intranet JDBC URL. The default format is jdbc:postgresql:// <connect_info>/ &lt; YOUR_DATABASE_NAME&gt;</connect_info>

#### Table 5-69 Nodes

Parameter	Туре	Description
id	String	Cluster instance ID
status	String	Cluster instance status
		• <b>100</b> : Creating
		• <b>199</b> : Idle
		• 200: Available
		300: Unavailable
		303: Creation failed.
		• 304: Deleting
		305: Deletion failed.
		• <b>400</b> : Deleted

Table 5-70 Tags

Parameter	Туре	Description
key	String	Key. A tag key can contain a maximum of 128 characters. It cannot be an empty string or start or end with a space. Only letters, digits, hyphens (-), and underscores (_) are allowed. It cannot contain the following characters:  =*<> /
value	String	Value. A tag value can contain a maximum of 255 characters, which can be an empty string. It cannot start or end with a space. Only letters, digits, hyphens (-), and underscores (_) are allowed. It cannot contain the following characters: =*<> /

## Table 5-71 PublicIp

Parameter	Туре	Description
public_bind_ty pe	String	Binding type of an EIP. The value can be one of the following:
		auto_assign
		• not_use
		bind_existing
eip_id	String	EIP ID

# Table 5-72 PublicEndpoints

Parameter	Туре	Description
public_connec t_info	String	Public network connection information
jdbc_url	String	Public network JDBC URL. The default format is jdbc:postgresql:// <public_connect_info>/ &lt; YOUR_DATABASE_name&gt;.</public_connect_info>

Table 5-73 ParameterGroup

Parameter	Туре	Description
id	String	Parameter group ID
name	String	Parameter group name

Parameter	Туре	Description	
status	String	Cluster parameter status. The value can be one of the following:	
		• In-Sync: synchronized	
		Applying: in application	
		Pending-Reboot: restart for the modification to take effect	
		Sync-Failure: application failed	

Table 5-74 MaintainWindow

Parameter	Туре	Description
day	String	Maintenance time in each week in the unit of day. The value can be one of the following:
		• Mon
		• Tue
		Wed
		• Thu
		• Fri
		• Sat
		• Sun
start_time	String	Maintenance start time in HH:mm format. The time zone is GMT+0.
end_time	String	Maintenance end time in HH:mm format. The time zone is GMT+0.

Table 5-75 ResizeInfo

Parameter	Туре	Description
target_node_n um	Integer	Number of nodes after the scale-out
origin_node_n um	Integer	Number of nodes before the scale-out
resize_status	String	Scale-out status. The value can be one of the following:  • GROWING
		RESIZE_FAILURE
start_time	String	Scale-out start time. Format: ISO8601:YYYY- MM-DDThh:mm:ss

Table 5-76 FailedReason

Parameter	Туре	Description
error_code	String	Error code
error_msg	String	Error message

### Table 5-77 ElbResp

Parameter	Туре	Description
public_ip	String	Public IP address
private_ip	String	Private IP address
private_endpo int	String	ELB endpoint address
name	String	ELB name
id	String	ELB ID
vpc_id	String	ID of the VPC to which the ELB belongs

Table 5-78 FlavorDetail

Parameter	Туре	Description
type	String	Data warehouse type.
		dws: standard data warehouse.
		• <b>stream</b> : stream data warehouse.
		hybrid: hybrid data warehouse.
cpu	String	Number of vCPUs
mem	String	Memory
volume_size	String	Storage space in GB.
volume_type	String	Disk type. The options are as follows:
		SATA: common I/O
		SAS: high I/O
		SSD: Ultra-high I/O
		ESSD: extreme SSD
		• ESSD2: ultra-fast SSD V2
volume_num	String	Disk quantity

#### **Example Request**

GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/b5c45780-1006-49e3-b2d5-b3229975bbc7

#### **Example Response**

#### Status code: 200

Cluster details have been queried successfully.

#### NOTE

The query result obtained by this API in HCS management mode may be different from that in the example.

```
"cluster": {
 "id": "7d85f602-a948-4a30-afd4-e84f47471c15",
"name": "dws-1",
"status": "AVAILABLE",
"version": "1.2.0",
 "updated": "2018-02-10T14:28:14Z",
 "created": "2018-02-10T14:28:14Z",
"port": 8000,
 "endpoints": [
    "connect info": "192.168.0.10:8000".
    "jdbc_url": "jdbc:postgresql://192.168.0.10:8000/<YOUR_DATABASE_name>"
 "nodes": [
   "id": "acaf62a4-41b3-4106-bf6b-2f669d88291e",
   "name": "dws-1-dws-cn-cn-1-1",
   "status": "200"
   "id": "d32de51e-4fcd-4e5a-a9dc-bb903abb494b",
   "id": "d71a4a25-c9bc-4ffd-9f4a-e422aef327f9",
   "name": "dws-1-dws-cn-cn-3-1",
   "status": "200"
 }
 "tags": [
   "key": "key1",
   "value": "value1"
   "key": "key2",
   "value": "value2"
 "user_name": "dbadmin",
"number_of_node": 3,
 "recent event": 6,
 "availability_zone": "az1.dc1",
"enterprise_project_id": "0",
"node_type": "dws.m1.xlarge.ultrahigh",
 "vpc_id": "85b20d7e-9eb7-4b2a-98f3-3c8843ea3574",
"subnet id": "374eca02-cfc4-4de7-8ab5-dbebf7d9a720",
"subnet_ids":["374eca02-cfc4-4de7-8ab5-dbebf7d9a720","2a2ea336-f894-4599-928b-12ac1941e643"],
"public_ip": {
```

```
"public_bind_type": "auto_assign",
"eip_id": "85b20d7e-9etypeb2a-98f3-3c8843ea3574"
  "public_endpoints": [
     "public_connect_info": "192.168.0.10:8000",
     "jdbc_url": "jdbc:postgresql://192.168.0.10:8000/<YOUR_DATABASE_name>"
  "action_progress": {
   "SNAPSHOTTING": "20%"
 },
"sub_status": "READONLY",
 "task_status": "SNAPSHOTTING",
  "parameter_group": {
   "id": "157e9cc4-64a8-11e8-adc0-fa7ae01bbebc",
   "name": "Default-Parameter-Group-dws ",
   "status": "In-Sync"
  "security_group_id": "dc3ec145-9029-4b39-b5a3-ace5a01f772b",
  "private_ip": [
   "192.168.0.12"
   "192.168.0.66"
  "maintain_window": {
   "day": "Wed",
   "start_time": "22:00",
   "end_time": "02:00"
  "resize_info": {
   "target_node_num": "6",
   "origin_node_num": "3"
   "resize_status": "GROWING",
   "start_time": "2018-02-14T14:28:14Z"
  "flavor_detail": {
    "type": "dws",
    "cpu": "4",
    "mem": "32",
    "volume_type": "SATA",
"volume_size": "200",
    "volume_num": "2"
}
```

#### **Status Code**

Status Code	Description
200	Cluster details have been queried successfully.
400	Request error
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# **5.2.14 Querying Node Types**

## **Function**

This API is used to query the node types supported by GaussDB(DWS).

#### **URI**

GET /v2/{project\_id}/node-types

**Table 5-79** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

## **Request Parameters**

None

# **Response Parameters**

Status code: 200

**Table 5-80** Response body parameters

Parameter	Туре	Description
node_types	Array of NodeTypes objects	List of node type objects
count	Integer	Total number of node types.

**Table 5-81** NodeTypes

Parameter	Туре	Description
spec_name	String	Name of a node type
detail	Array of <b>Detail</b> objects	Node type details
id	String	Node type ID

Parameter	Туре	Description
datastore_typ e	String	<ul><li>Product type</li><li>dws: standard data warehouse.</li><li>hybrid: hybrid data warehouse.</li><li>stream: stream data warehouse.</li></ul>
available_zon es	Array of NodeTypeAv ailableZones objects	Supported AZs and their statuses
ram	Integer	Memory size
vcpus	Integer	Number of CPUs
datastores	Array of NodeTypeDat astores objects	Kernel version information
volume	VolumeResp object	For a fixed storage flavor, the value is the storage of its typical configuration. For an elastic storage flavor, the value <b>null</b> .
elastic_volum e_specs	Array of NodeTypeEla sticVolumeSp ecs objects	If the specification is elastic, this attribute indicates the typical specification, including the storage type, minimum capacity, maximum capacity, and step. If the specification is fixed, this attribute is null.

#### Table 5-82 Detail

Parameter	Туре	Description
type	String	Attribute type
value	String	Attribute value
unit	String	Attribute unit

**Table 5-83** NodeTypeAvailableZones

Parameter	Туре	Description
code	String	AZ ID

Parameter	Туре	Description	
status	String	Availability status of a node type.	
		normal: The node type is available.	
		sellout: Resources are insufficient.	
		abandon: The node type is unavailable.	

#### **Table 5-84** NodeTypeDatastores

Parameter	Туре	Description	
version	String	OS kernel version	
attachments	Attachments object	Additional information about the kernel version	

#### Table 5-85 attachments

Parameter	Туре	Description	
min_cn	String	Minimum CNs allowed by the kernel version	
max_cn	String	Maximum CNs allowed by the kernel version	

#### Table 5-86 VolumeResp

Parameter	Туре	Description	
type	String	Disk type. Only SSD is supported.	
size	Integer	Available disk capacity (GB)	

#### Table 5-87 NodeTypeElasticVolumeSpecs

Parameter	Туре	Description	
type	String	Cloud disk type.	
step	String	Cloud disk size increment	
min_size	Integer	Minimum cloud disk size	
max_size	Integer	Maximum cloud disk size	

#### **Example Request**

GET https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/node-types

### **Example Response**

Status code: 200

The node type is queried successfully.

```
"node_types" : [ {
    "spec_name" : "dws.d2.xlarge",
    "id" : "ebe532d6-665f-40e6-a4d4-3c51545b6a67",
 "datastore_type" : "dws",
"available_zones" : [ {
   "code" : "az1",
    "status" : "normal"
 } ],
"ram" : 32,
  "vcpus" : 4,
  "datastores" : [ {
    "version" : "8.1.3.200",
   "attachments" : \{
      "min_cn" : 2,
      "max_cn": 20
  }],
  "volume" : {
  "type" : "SSD",
   "size" : 160
  "elastic_volume_specs" : [ {
   "type" : "SSD",
    "step" : 100,
   "min_size" : 100,
"max_size" : 32000
  "detail" : [ {
  "type" : "vCPU",
  "value" : "4"
  }, {
   "value" : "1675",
"type" : "LOCAL_DISK",
"unit" : "GB"
 }, {
"type" : "mem",
   "value" : "32",
    "unit" : "GB"
 }]
}],
"count" : 1
```

#### **Status Code**

Status Code	Description
200	The node type is queried successfully.
400	Request error
401	Authentication failed.

Status Code	Description
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# **5.2.15 Deleting Clusters**

#### **Function**

This API is used to delete clusters. All resources of the deleted cluster, including user data, will be released. For data security, create a snapshot for the cluster that you want to delete before deleting the cluster.

#### URI

DELETE /v1.0/{project\_id}/clusters/{cluster\_id}

Table 5-88 URI parameters

Paramete r	Mandato ry	Туре	Description	
cluster_id	Yes	String	ID of the cluster to be deleted. For details about how to obtain the ID, see <b>Obtaining</b> the Cluster ID.	
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see <b>Obtaining Resource Sets ID</b> .	

## **Request Parameters**

**Table 5-89** Request body parameters

Parameter	Mandatory	Туре	Description
keep_last_ma nual_snapsho t	Yes	Integer	The number of latest manual snapshots that need to be retained for a cluster.

### **Response Parameters**

None

### **Example Request**

```
DELETE https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90 {
    "keep_last_manual_snapshot" : 0
}
```

### **Example Response**

None

#### **Status Code**

Status Code	Description
202	The cluster is terminated successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.16 Deleting a Cluster (V2)

#### **Function**

This API is used to delete a cluster. After a cluster is deleted, all resources of the cluster, including customer data, are released. For data security, create a snapshot for the cluster that you want to delete before deleting the cluster.

#### **URI**

DELETE /v2/{project\_id}/clusters/{cluster\_id}

Table 5-90 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	ID of the cluster to be deleted.

**Table 5-91** Query parameters

Parameter	Mandatory	Туре	Description
keep_last_ma nual_backup	No	String	Number of snapshots to be retained in the cluster. If this parameter is left blank, the default value <b>0</b> is used.
release_eip_ty pe	No	String	Specifies whether the EIP is released. By default, the EIP is not released.
			NO_RELEASE: The bound EIP is not released.
			RELEASE_BINDING: The bound EIP is released.

## **Request Parameters**

None

## **Response Parameters**

None

# **Example Request**

None

# **Example Response**

None

## **Status Code**

Status Code	Description
202	The cluster is terminated successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.17 Deleting a Logical Cluster

#### **Function**

This API is used to delete a logical cluster.

#### **URI**

DELETE /v2/{project\_id}/clusters/{cluster\_id}/logical-clusters/{logical\_cluster\_id}

Table 5-92 URI parameters

Parameter	Mandato ry	Туре	Description
cluster_id	Yes	String	ID of the cluster to be deleted. For details about how to obtain the ID, see Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see <b>Obtaining Resource Sets ID</b> .
logical_cluster _id	Yes	String	ID of the logical cluster to be deleted

# **Request Parameters**

None

# **Response Parameters**

Status code: 200

**Table 5-93** Response body parameters

Parameter	Туре	Description
error_code	String	Error code
error_msg	String	Error message
retCode	String	Error code
retMessage	String	Error message
errCode	String	Error code
externalMess age	String	Error message

# **Example Request**

 $\label{lem:decomposition} DELETE\ https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/logical-clusters/0b494d0d-8431-4c4f-8a06-2cc42d0d0c7d$ 

## **Example Response**

```
{
  "errCode": "DWS.0000",
  "error_code": "DWS.0000",
  "error_msg": "Request successfully processed.",
  "externalMessage": "Request successfully processed.",
  "retCode": "DWS.0000",
  "retMessage": "Request successfully processed."
}
```

### **Status Code**

Status Code	Description
200	The logical cluster is deleted.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.18 Editing a Logical Cluster

## **Function**

This API is used to modify a logical cluster.

#### **URI**

PUT /v2/{project\_id}/clusters/{cluster\_id}/logical-clusters/{logical\_cluster\_id}

#### **Table 5-94** URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	ID of the cluster to be edited. For details about how to obtain the ID, see Obtaining the Cluster ID.

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
logical_cluster _id	Yes	String	ID of the logical cluster to be edited.

# **Request Parameters**

**Table 5-95** Request body parameters

Parameter	Mandatory	Туре	Description
cluster_rings	Yes	Array of ClusterRing objects	Information about the edited logical cluster ring.
mode	No	String	Mode
waiting_for_ki lling	No	Integer	Indicates whether the cluster is waiting for destruction.

## Table 5-96 ClusterRing

Parameter	Mandatory	Туре	Description
ring_hosts	Yes	Array of RingHost objects	Cluster host information

#### **Table 5-97** RingHost

Parameter	Mandatory	Туре	Description
host_name	Yes	String	Host name
back_ip	Yes	String	Backend IP address
cpu_cores	Yes	Integer	Number of host CPUs
memory	Yes	Double	Host memory
disk_size	Yes	Double	Disk size of the host

### **Response Parameters**

Status code: 200

**Table 5-98** Response body parameters

Parameter	Туре	Description
error_code	String	Error code
error_msg	String	Error message

### **Example Request**

Expand a logical cluster originally with one ring and three nodes to have two rings and six nodes.

```
PUT https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-
b4f3-0ad4e5e3ba90/logical-clusters/0b494d0d-8431-4c4f-8a06-2cc42d0d0c7d
 "cluster_rings": [
    "ring_hosts": [
       "back_ip": "172.16.73.90",
       "cpu_cores": 8,
       "disk_size": "800.0",
       "host_name": "host-172-16-20-246",
"memory": "32.0"
       "back_ip": "172.16.123.5",
"cpu_cores": 8,
       "disk_size": "800.0",
       "host_name": "host-172-16-4-26",
"memory": "32.0"
       "back_ip": "172.16.92.175",
       "cpu_cores": 8,
       "disk_size": "800.0",
       "host_name": "host-172-16-43-90",
"memory": "32.0"
    "ring_hosts": [
       "back_ip": "172.16.73.54",
       "cpu_cores": 8,
       "disk_size": "800.0",
       "host_name": "host-172-16-11-287",
       "memory": "32.0"
       "back_ip": "172.16.123.59",
       "cpu_cores": 8,
       "disk_size": "800.0",
       "host_name": "host-172-16-77-882",
       "memory": "32.0"
```

```
"back_ip": "172.16.92.177",
    "cpu_cores": 8,
    "disk_size": "800.0",
    "host_name": "host-172-16-77-870",
    "memory": "32.0"
    }
    ]
    ,
    "mode": "read-only",
    "waiting_for_killing": 0
}
```

### **Example Response**

#### Status code: 200

The logical cluster is edited successfully.

```
{
    "error_code" : "DWS.0000",
    "error_msg" : null
}
```

#### **Status Code**

Status Code	Description
200	The logical cluster is edited successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# **5.2.19 Restarting a Logical Cluster**

#### **Function**

This API is used to restart a logical cluster.

#### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/logical-clusters/{logical\_cluster\_id}/restart

**Table 5-99** URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	ID of the cluster to be restarted. For details about how to obtain the ID, see Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
logical_cluster _id	Yes	String	ID of the logical cluster to be restarted

## **Request Parameters**

None

## **Response Parameters**

Status code: 200

**Table 5-100** Response body parameters

Parameter	Туре	Description
error_code	String	Error code
error_msg	String	Error message

# **Example Request**

POST https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/logical-clusters/0b494d0d-8431-4c4f-8a06-2cc42d0d0c7d/restart

# **Example Response**

Status code: 200

The cluster is restarted.

```
י
"error_code" : "DWS.0000",
"error_msg" : null
```

#### **Status Code**

Status Code	Description
200	The cluster is restarted.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.20 Switching to a Logical Cluster

#### **Function**

This API is used to switch the logical cluster switch. It is only used to control whether the function modules related to the logical cluster are displayed on the page. If the cluster is already a logical cluster, modifying this interface has no effect or impact.

#### **URI**

PUT /v2/{project\_id}/clusters/{cluster\_id}/logical-clusters/enable

Table 5-101 URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	ID of the cluster. For details about how to obtain the ID, see <b>Obtaining the Cluster ID</b> .
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

### **Request Parameters**

**Table 5-102** Request body parameters

Parameter	Mandatory	Туре	Description
enable	Yes	Boolean	<b>true</b> indicates the logical cluster is enabled.

# **Response Parameters**

Status code: 200

Table 5-103 Response body parameters

Parameter	Туре	Description
error_code	String	Error code
error_msg	String	Error message

# **Example Request**

```
PUT https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/logical-clusters/enable

{
    "enable": true
}
```

## **Example Response**

Status code: 200

The logical cluster is enabled.

```
{
    "error_code" : "DWS.0000",
    "error_msg" : null
}
```

#### **Status Code**

Status Code	Description
200	The logical cluster is enabled.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.

Status Code	Description
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.21 Deleting a Node

#### **Function**

This API is used to delete a node.

#### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/nodes/delete

Table 5-104 URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	ID of the cluster whose node is to be deleted. For details about how to obtain the ID, see Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

# **Request Parameters**

**Table 5-105** Request body parameters

Parameter	Mandatory	Туре	Description
node_list	Yes	Array of strings	List of node IDs in a logical cluster.
operate_type	Yes	String	Operation type, which can be clear or delete.

# **Response Parameters**

Status code: 202

**Table 5-106** Response body parameters

Parameter	Туре	Description
error_code	String	Error code
error_msg	String	Error message

# **Example Request**

```
POST https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/nodes/delete

{
    "node_list" : [ "16413746-258e-4a3c-bea9-8496fdbefde3" ],
    "operate_type" : "delete"
}
```

# **Example Response**

Status code: 202

The cluster node is deleted.

```
{
    "error_code" : "DWS.0000",
    "error_msg" : "Success submit 3 node delete job"
}
```

#### **Status Code**

Status Code	Description
202	The cluster node is deleted.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.22 Scaling Out with Idle Nodes

## **Function**

This API is used to scale out with idle nodes.

#### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/resize-with-existed-nodes

**Table 5-107** URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	ID of the cluster containing the specified idles nodes. For details about how to obtain the ID, see Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

# **Request Parameters**

**Table 5-108** Request body parameters

Parameter	Mandatory	Туре	Description
scale_out	Yes	ScaleOut object	Object to be scaled out
force_backup	No	Boolean	Whether to forcibly back up data
mode	No	String	Capacity expansion backup mode. The default value is offline read-only.
logical_cluster _name	No	String	Logical cluster name In non- logical cluster mode, this parameter is left blank. In logical cluster mode, the default value is <b>elastic_group</b> .
expand_with_ existed_node	Yes	Boolean	Whether to use the added idle nodes for scale-out
auto_redistrib ute	No	Boolean	Whether to automatically start redistribution after scale-out. The default value is <b>true</b> .
redis_conf	No	RedisConfRe q object	Redistribution configuration information

#### Table 5-109 ScaleOut

Parameter	Mandatory	Туре	Description
count	Yes	Integer	Number of nodes to be added If there are idle nodes, all idle nodes must be used for scaleout.

#### Table 5-110 RedisConfReq

Parameter	Mandatory	Туре	Description
redis_mode	Yes	String	Redistribution mode <b>offLine</b> and <b>onLine</b> . The default is <b>offLine</b> .
parallel_jobs	Yes	Integer	Number of parallel jobs The value ranges from 1 to 200. The default value is 4.

# **Response Parameters**

None

# **Example Request**

```
POST https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/resize-with-existed-nodes

{
    "scale_out" : {
        "count" : 3
    },
    "expand_with_existed_node" : true,
    "auto_redistribute" : true,
    "redis_conf" : {
        "redis_mode" : "offLine",
        "parallel_jobs" : 4
    }
}
```

# **Example Response**

{}

#### Status code: 200

The scale-out using idle nodes is successful.

#### **Status Code**

Status Code	Description
200	The scale-out using idle nodes is successful.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.23 Resuming Redistribution

#### **Function**

This API is used to resume redistribution in the paused state. Only DWS2.0 clusters are supported.

#### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/redistribution/recovery

Table 5-111 URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	ID of the redistribution cluster to be restored. For details about how to obtain the ID, see Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

# **Request Parameters**

None

### **Response Parameters**

**Table 5-112** Response body parameters

Parameter	Туре	Description
error_code	String	Error code
error_msg	String	Error message
retCode	String	Error code
retMessage	String	Error message
errCode	String	Error code
externalMessage	String	Error message

## **Example Request**

 $POST\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ffb4f3-0ad4e5e3ba90/redistribution/recovery$ 

## **Example Response**

Status code: 200

Redistribution resumed.

```
{
    "errCode": "DWS.0000",
    "externalMessage": "Request successfully processed.",
    "error_code": "DWS.0000",
    "error_msg": "Request successfully processed.",
    "retCode": null,
    "retMessage": null
}
```

## **Status Code**

Status Code	Description
200	Redistribution resumed.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.24 Suspending Redistribution

#### **Function**

This API is used to suspend redistribution in the running state. In the suspended state, you can set the redistribution priority and change the number of concurrent redistribution tasks. Only DWS 2.0 clusters are supported.

#### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/redistribution/suspend

Table 5-113 URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	ID of the cluster where redistribution is to be suspended. For details about how to obtain the ID, see Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

#### **Request Parameters**

None

#### **Response Parameters**

Parameter	Туре	Description
error_code	String	Error code
error_msg	String	Error message
retCode	String	Error code
retMessage	String	Error message
errCode	String	Error code
externalMessage	String	Error message

## **Example Request**

 $POST\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/redistribution/suspend$ 

### **Example Response**

```
"errCode": "DWS.0000",
    "externalMessage": "Request successfully processed.",
    "error_code": "DWS.0000",
    "error_msg": "Request successfully processed.",
    "retCode": null,
    "retMessage": null
}
```

#### **Status Code**

Status Code	Description
200	Redistribution suspended.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.25 Restarting a Cluster

#### **Function**

This API is used to restart a cluster.

#### **URI**

POST /v1.0/{project\_id}/clusters/{cluster\_id}/restart

Table 5-114 URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	ID of the cluster to be restarted. For details about how to obtain the ID, see Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

### **Request Parameters**

**Table 5-115** Request body parameters

Parameter	Mandatory	Туре	Description
restart	Yes	Object	Restart flag

#### **Response Parameters**

None

# **Example Request**

Restart the cluster whose ID is 4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90:

```
POST https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/restart

{
    "restart": { }
```

## **Example ResponseResource Sets ID**

None

#### **Status Code**

Status Code	Description
200	The cluster is restarted successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.26 Checking Before Cluster Capacity Expansion

#### **Function**

This API is used to perform a pre-check before cluster scale-out.

#### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/grow-check

**Table 5-116** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

# **Request Parameters**

**Table 5-117** Request body parameters

Parameter	Mandatory	Туре	Description
auto_redistrib ute	No	Boolean	Whether to automatically redistribute data.
create_node_ only	No	Boolean	Whether to create only nodes.
expand_with_ existed_node	No	Boolean	Whether to use idle nodes for scale-out.
force_backup	No	Boolean	Whether to forcibly back up data
is_scheduler_b uild_mode	No	Boolean	Whether the scheduling mode is used.
mode	No	String	Capacity expansion mode.
redis_conf	No	redis_conf object	Redistribution configuration.
scale_out	No	scale_out object	Scale-out configurations.
waiting_for_ki lling	No	Integer	Wait time.

Table 5-118 redis\_conf

Parameter	Mandatory	Туре	Description
parallel_jobs	No	Integer	Number of parallel jobs.
redis_mode	No	String	Redistribution mode.

Table 5-119 scale\_out

Parameter	Mandatory	Туре	Description
count	No	Integer	Number of nodes.
node_type	No	String	Node type.

Status code: 200

Table 5-120 Response body parameters

Parameter	Туре	Description
data	Array of CheckGrowR esult objects	Pre-expansion check result array list.

Table 5-121 CheckGrowResult

Parameter	Туре	Description	
pass	Boolean	Whether the check is passed.	
reason	String	Check reason.	
required	Boolean	Whether a checklist item requires approval.	
desc	String	Check description.	
type	String	Check type.	

## **Example Request**

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/clusters/b6ea9fdb-fdd0-418d-938d-8ecfe51cbf8b/grow-check

{
    "scale_out" : {
        "count" : 3
```

} }

## **Example Response**

#### Status code: 200

The pre-scale-out check and verification for the cluster are finished.

```
{
    "data" : [ ]
}
```

#### **Status Code**

Status Code	Description
200	The pre-scale-out check and verification for the cluster are finished.
400	Request error.
401	Authorization failed.
403	No operation permission.
404	No resources found.
500	Internal service error.
503	The service was unavailable.

# 5.2.27 Expanding Cluster Capacity/Adding Idle Nodes

#### **Function**

- 1. This API is used to scale out clusters.
- 2. This API can also be used to add idle nodes.

#### **URI**

POST /v1.0/{project\_id}/clusters/{cluster\_id}/resize

Table 5-122 URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	ID of the cluster to be scaled out. For details about how to obtain the ID, see <b>Obtaining</b> the Cluster ID.

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

**Table 5-123** Request body parameters

Parameter	Mandatory	Туре	Description
scale_out	Yes	ScaleOut object	Object to be scaled out
create_node_ only	No	Boolean	Whether only idle nodes are added. If this parameter is left blank, the default value <b>false</b> is used.

Table 5-124 ScaleOut

Parameter	Mandatory	Туре	Description
count	Yes	Integer	Number of nodes to be added
subnet_id	No	String	Subnet ID specified for cross- subnet scale-out. If this parameter is left blank, the subnet of the original cluster is used by default.

## Response parameter

None

## **Example Request**

Scale out a cluster by adding 3 nodes.

```
POST https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/resize

{
    "scale_out" : {
        "count" : 3,
        "subnet_id":"08a71407-6379-42c2-893b-09408f88ee8e"
    }
}
```

#### Add three idle nodes.

```
POST https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/resize

{
    "scale_out" : {
        "count" : 3
    },
    "create_node_only" : true
}
```

## **Example Response**

None

#### **Status Code**

Status Code	Description
200	The cluster is expanded or idle nodes are added.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

## 5.2.28 Resetting a Password

#### **Function**

This API is used to reset the password of cluster administrator.

#### URI

POST /v1.0/{project\_id}/clusters/{cluster\_id}/reset-password

Table 5-125 URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	ID of the cluster whose password is to be reset. For details about how to obtain the ID, see <b>Obtaining the Cluster ID</b> .

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

**Table 5-126** Request body parameters

Parameter	Mandatory	Туре	Description
new_passwor d	Yes	String	New password of the GaussDB(DWS) cluster administrator A password must conform to the following rules:
			Contains 12 to 32 characters.
			Cannot be the same as the username or the username written in reverse order.
			Contains at least three types of the following:
			<ul> <li>Lowercase letters</li> </ul>
			<ul> <li>Uppercase letters</li> </ul>
			– Digits
			<pre>- Special characters: ~!?,.:;'''(){}[]/&lt;&gt;@#%^&amp;*+ \=</pre>
			Cannot be the same as previous passwords.
			Cannot be a weak password.

## **Response Parameters**

None

## **Example Request**

Reset the password of the cluster whose ID is 4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90:

 $POST\ https://\{Endpoint\}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/reset-password$ 

```
"new_password" : "NewPassw0rd!"
າ
```

## **Example Response**

None

#### **Status Code**

Status Code	Description	
200	The password is reset successfully.	
400	Request error.	
401	Authentication failed.	
403	You do not have required permissions.	
404	No resources found.	
500	Internal server error.	
503	Service unavailable.	

# 5.2.29 Performing a Check Before Cluster Creation

#### **Function**

This API is used to perform a check before creating a cluster.

#### **URI**

POST /v2/{project\_id}/cluster-precheck

Table 5-127 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

**Table 5-128** Request body parameters

Parameter	Mandatory	Туре	Description
cluster	Yes	ClusterCheck Body object	Cluster verification object.

Table 5-129 ClusterCheckBody

Parameter	Mandatory	Туре	Description
enterprise_pro ject_id	No	String	Enterprise project ID
flavor	Yes	String	Cluster specification name
availability_zo nes	Yes	Array of strings	List of AZs.
num_node	Yes	Integer	Number of instance nodes.
security_grou p_id	No	String	Security group ID
datastore_ver sion	Yes	String	Cluster version
vpc_id	Yes	String	VPC ID
subnet_id	Yes	String	Subnet ID
public_ip	No	OpenPublicIp object	EIP
cross_spec_res tore	No	String	Cross-specification restoration
volume	No	<b>Volume</b> object	Disk
old_cluster_ho stname	No	String	Name of the old host
restore_point	No	RestorePoint object	Restoration pointer
tag_list	No	Array of <b>Tag</b> objects	Tag list
dss_pool_id	No	String	Storage pool ID
db_port	No	String	Database port
db_password	No	String	Administrator password

Parameter	Mandatory	Туре	Description
db_name	No	String	Administrator username
num_cn	No	Integer	Number of CNs
name	No	String	Cluster name

### Table 5-130 OpenPublicIp

Parameter	Mandatory	Туре	Description
public_bind_ty pe	No	String	Binding type of an EIP. The value can be one of the following:  • auto_assign  • not_use  • bind_existing
eip_id	No	String	EIP ID

#### Table 5-131 Volume

Parameter	Mandatory	Туре	Description
volume	No	String	Disk name. The options are as follows:
			• SSD: Ultra-high I/O
			High I/O (SAS)
			• Common I/O (SATA)
capacity	No	Integer	Disk capacity

#### Table 5-132 RestorePoint

Parameter	Mandatory	Туре	Description
back_ref	No	String	Snapshot ID
restore_time	No	Long	Recovery time
cluster_id	No	String	Cluster ID

**Table 5-133** Tag

Parameter	Mandatory	Туре	Description
key	No	String	Tag key
value	No	String	Tag value

None

### **Example Request**

Check the conditions for creating a cluster. For example, check whether the **dws.m3.xlarge** flavor, three nodes, public IP address, security group, and VPC are available in the **az1.dc1**.

#### **Example Response**

None

Status Code	Description	
200	The check before cluster creation is successful.	
400	Request error.	
401	Authentication failed.	
403	You do not have required permissions.	
404	No resources found.	
500	Internal server error.	
503	The service was unavailable.	

# 5.2.30 Scaling In a Cluster

#### **Function**

This API is used to scales in a cluster.

#### URI

POST /v1.0/{project\_id}/clusters/{cluster\_id}/cluster-shrink

Table 5-134 URI parameters

Paramete r	Mandato ry	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see <b>Obtaining Resource Sets ID</b> .
cluster_id	Yes	String	Cluster ID For details about how to obtain the ID, see <b>Obtaining the Cluster ID</b> .

## **Request Parameters**

**Table 5-135** Request body parameters

Paramete r	Mandato ry	Туре	Description
shrink_nu mber	Yes	Integer	<ul> <li>Number of scale-in nodes.</li> <li>The cluster is configured in the ring mode. A ring is the smallest unit for scale-in. Three or four hosts form a ring. The primary, standby, and secondary DNs are deployed in this ring.</li> <li>The scale-in must be performed in reverse order of the scale-out. For example, if three nodes are added and then four nodes are added, you can reduce four nodes or seven nodes.</li> </ul>
online	Yes	Boolean	Online scale-in
type	Yes	String	<ul><li>Database type.</li><li>dws: standard data warehouse.</li><li>stream: stream data warehouse.</li><li>hybrid: hybrid data warehouse.</li></ul>

Paramete r	Mandato ry	Туре	Description
retry	No	Boolean	Whether to retry
force_bac kup	Yes	Boolean	Whether to perform back up
need_age ncy	Yes	Boolean	Whether an agency is required If scale-in takes a long time, you need to authorize an agency. Otherwise, scale-in may fail.

**Table 5-136** Response parameters

Parameter	Туре	Description
error_code	String	Error code
error_msg	String	Error message

## **Example Request**

Scale in the standard data warehouse cluster whose ID is 4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90 offline by reducing 3 nodes, perform backup, and do not use agency:

```
POST https://{Endpoint} /v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/cluster-shrink {
    "shrink_number": 3,
    "online": false,
    "type": "dws",
    "force_backup": true,
    "need_agency": false
}
```

## **Example Response**

Status code: 200

```
{
    "error_code": "DWS.0000",
    "error_msg": "Request successfully processed."
}
```

Status Code	Description
200	The scale-in request is successfully sent.

Status Code	Description
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## 5.2.31 Delivering Redistribution

#### **Function**

This API is used to evenly distribute data from old nodes to new nodes after cluster scale-out. After data redistribution, the service response speed is greatly improved. Only DWS 2.0, 8.1.1.200, and later versions support the redistribution function. Offline scheduling is not supported in 8.2.0 or later. This function can be manually enabled only when the cluster task information displays **To be** redistributed after scale-out. You can also select advanced configurations such as the redistribution mode during scale-out. Redistribution queues are sorted based on the relpage size of tables. To ensure that the relpage size is correct, you are advised to perform the **ANALYZE** operation on the tables to be redistributed.

#### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/redistribution

Table 5-137 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.

**Table 5-138** Request body parameters

Parameter	Mandatory	Туре	Description
redis_mode	Yes	String	Redistribution mode. The options are as follows:  • online  • offline
parallel_jobs	Yes	Integer	Redistribution concurrency Value range: 1 to 32

## **Response Parameters**

None

## **Example Request**

Deliver an online cluster redistribution task and set the number of concurrent tasks to 3:

```
POST https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/redistribution {
    "redis_mode":"online",
    "parallel_jobs":3
}
```

## **Example Response**

{}

Status Code	Description
200	The redistribution task is successfully delivered.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.2.32 Querying Redistribution Details

#### **Function**

This API is used to view monitoring information about the current cluster, such as the redistribution mode, redistribution progress, and redistribution details. Only GaussDB(DWS) 2.0, 8.1.1.200, and later versions support the function of viewing redistribution details. Only GaussDB(DWS) 2.0, 8.2.1, and later versions support the function of viewing redistribution progress details.

#### **URI**

GET /v2/{project\_id}/clusters/{cluster\_id}/redistribution

Table 5-139 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

Table 5-140 Query parameters

Parameter	Mandatory	Туре	Description
limit	No	Integer	Size of each page to be queried
offset	No	Integer	Offset for the pagination query
db_name	No	String	Database name
table_name	No	String	Table name
type	No	String	Туре.

#### **Request Parameters**

None

#### **Response Parameters**

Status code: 200

Table 5-141 Response body parameter

Parameter	Туре	Description
redis_info	RdsRedisInfo object	Redistribution information
schedule_mod e	Boolean	Scheduling mode
pause_enable	Boolean	Whether suspension is allowed
recover_enabl e	Boolean	Whether resuming is allowed
retry_enable	Boolean	Whether retry is allowed
update_enabl e	Boolean	Whether update is allowed
control_enabl e	Boolean	Whether control is allowed
error_code	String	Error code
error_msg	String	Error message

Table 5-142 RdsRedisInfo

Parameter	Туре	Description
id	String	ID.
cluster_id	String	Cluster ID.
start_time	String	Start time
end_time	String	End time
status	String	Running status
redis_conf	RedisConf object	Redistribution configuration
redis_process	RedisProgres s object	Redistribution progress
redis_table_de tail	RedisTableDe tail object	Redistribution table information

Table 5-143 RedisConf

Parameter	Туре	Description
redis_mode	String	Redistribution mode
schedule_conf	ScheduleCon f object	Scheduling configuration information
parallel_jobs	Integer	Number of parallel jobs
parallel_job	Integer	Number of parallel jobs

Table 5-144 ScheduleConf

Parameter	Туре	Description
schedule_start	String	Scheduling start time
schedule_end	String	Scheduling end time
schedule_type	String	Scheduling type
schedule_date	Array of integers	Scheduling date
schedule_time	Array of strings	Scheduling time list

Table 5-145 RedisProgress

Parameter	Туре	Description
bytes_done	Long	Number of completed bytes
byte_left	Long	Number of remaining bytes
tables_done	Integer	Completed tables
tables_left	Integer	Remaining tables
table_progres s	Integer	Table redistribution progress
total_progress	Integer	Overall progress
redis_rate	String	Redistribution ratio
estimated_tim e	String	Estimated time
completed	Boolean	Completed or not
initialed	Boolean	Initialized or not

Parameter	Туре	Description
fail_count	Integer	Total number of failures
redistributing	Boolean	cm_ctl result
status	String	Running status
pause_by_use r	Boolean	Whether it is suspended by the user

#### Table 5-146 RedisTableDetail

Parameter	Туре	Description
data	Array of RedisTable objects	Detailed data
total	Integer	Total records

#### Table 5-147 RedisTable

Parameter	Туре	Description
table_name	String	Table name
id	Integer	Unique ID of a table
schema_name	String	Schema name
logical_cluster _name	String	Logical cluster name
size	Long	Table size
status	String	<ul> <li>Redistribution Status</li> <li>i: Redistribution is in progress.</li> <li>y: Redistribution is complete.</li> <li>n: Redistribution is not started.</li> </ul>

## **Example Request**

```
GET https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/redistribution

{
    "redis_mode" : "online",
    "parallel_jobs" : 3
```

### **Example Response**

#### Status code: 200

The redistribution details are queried.

```
"error_code": "DWS.0000",
"error_msg": null,
"redis_info": {
   "id": null,
   "cluster_id": "73f10ab8-e345-4467-aa4b-b567808f25f0",
   "start_time": "",
"end_time": "",
   "status": "",
   "redis_conf": {
      "redis_mode": "offline",
      "schedule_conf": {
         "scheduleStart": null,
         "scheduleEnd": null,
         "scheduleType": null,
         "scheduleDate": null,
         "scheduleTime": null
      "parallel_jobs": null,
      "parallelJobs": null
   "redis_process": {
      "bytes_done": 0,
      "byte left": 0,
      "tables_done": 0,
      "tables_left": 0,
      "table_progress": 0,
      "total_progress": 0,
      "redis_rate": "0 KB/s",
      "estimated_time": null,
      "completed": false,
      "initialed": false,
      "fail_count": 0,
      "redistributing": false,
      "status": null,
      "pause_by_user": false,
      "total_redis_rate": null
  "data": null,
      "total": null
},
"schedule_mode": false,
"recover_enable": false,
"retry_enable": false,
"update_enable": false,
"control_enable": false
```

Status Code	Description
200	The redistribution details are queried.
400	Request error.

Status Code	Description
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.2.33 Querying the Cluster Tag List

## **Function**

This API is used to query the cluster tag list.

#### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/enterprise-projects

Table 5-148 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-149** Query parameters

Parameter	Mandatory	Туре	Description
limit	No	Integer	Number of records to be queried
offset	No	Integer	Offset

## **Request Parameters**

None

Status code: 200

**Table 5-150** Response body parameters

Parameter	Туре	Description
sys_tags	Array of TagsForReso urce objects	Cluster tag information
count	Integer	Total number of tags

#### **Table 5-151** TagsForResource

Parameter	Туре	Description
key	String	Cluster tag key
value	String	Cluster tag value

### **Example Request**

 $\label{lem:GET https://Endpoint} $$ GET https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eba996-13f8b44994c1/enterprise-projects} $$$ 

## **Example Response**

Status code: 200

The cluster tag list is queried successfully.

```
{
  "sys_tags" : [ {
    "key" : "_sys_enterprise_project_id",
    "value" : "val"
  } ],
  "count" : 2
}
```

Status Code	Description
200	The cluster tag list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.

Status Code	Description
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.2.34 Querying Clusters by Tag

## **Function**

This API is used to query clusters by tag.

#### URI

POST /v1/{project\_id}/clusters/resource-instances/tag-filter

Table 5-152 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Table 5-153 Query parameters

Parameter	Mandatory	Туре	Description
limit	No	Integer	Number of records to be queried
offset	No	Integer	Offset

## **Request Parameters**

**Table 5-154** Request body parameters

Parameter	Mandatory	Туре	Description
tags	No	Array of TagFilterItem objects	Tag list

Table 5-155 TagFilterItem

Parameter	Mandatory	Туре	Description
key	Yes	String	Tag key
values	No	Array of strings	Tag value

Status code: 200

Table 5-156 Response body parameters

Parameter	Туре	Description
resources	Array of ResourceByT ag objects	Cluster resource information
count	Integer	Total number

Table 5-157 ResourceByTag

Parameter	Туре	Description
resource_id	String	Cluster resource ID
resource_nam e	String	Name of a cluster resource
resource_deta il	String	Resource details
tags	Array of TagsForReso urce objects	Cluster tag list

Table 5-158 TagsForResource

Parameter	Туре	Description
key	String	Cluster tag key
value	String	Cluster tag value

### **Example Request**

```
POST https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/resource-instances/tag-filter

{
    "tags" : [ {
        "key" : "key",
        "values" : [ "test1", "test2" ]
    } ]
}
```

#### **Example Response**

#### Status code: 200

The cluster tag list is gueried successfully.

```
{
  "resources" : [ {
     "resource_id" : "862201cd-f822-4dbc-ae3b-c7b9d080eea6",
     "resource_detail" : "",
     "resource_name" : "cluster-name",
     "tags" : [ {
          "key" : "keyName",
          "value" : "test1"
     } ]
     } ],
     "count" : 2
}
```

#### **Status Code**

Status Code	Description
200	The cluster tag list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

## **5.2.35 Querying the Resource Statistics**

#### **Function**

This API is used to query the available resources, including available clusters and total clusters, available nodes and total nodes, and total capacity (GB).

#### URI

GET /v1.0/{project\_id}/statistics

Table 5-159 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

None

## **Response Parameters**

Status code: 200

Table 5-160 Response body parameters

Parameter	Туре	Description
statistics	Array of Statistic objects	Resource statistics

Table 5-161 Statistic

Parameter	Туре	Description
name	String	Resource name
		cluster.total: total number of clusters.
		cluster.normal: number of available clusters.
		• instance.total: total number of nodes.
		• instance.normal: number of available nodes.
		• storage.total: total capacity (GB).
value	Double	Number of resources
unit	String	Resource unit

## **Example Request**

GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/statistics

### **Example Response**

#### Status code: 200

The number of resources is queried successfully.

```
"statistics" : [ {
    "name" : "cluster.total",
  "value" : 3,
  "unit" : null
}, {
  "name" : "cluster.normal",
  "value" : 3,
  "unit" : null
}, {
  "name": "instance.total",
  "value" : 9,
  "unit" : null
}, {
    "name" : "instance.normal",
  "value": 9,
  "unit" : null
}, {
  "name" : "storage.total",
"value" : 1800,
"unit" : "GB"
}]
```

#### **Status Code**

Status Code	Description
200	The number of resources is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.2.36 Performing a Switchback

#### **Function**

This API is used to performing a switchback. In the **Unbalanced** state, the number of primary instances on some nodes increases. As a result, the load pressure is high. In this case, the cluster is normal, but the overall performance is not as good as that in a balanced state. You can perform a switchback to change the cluster status to **Available**.

#### 

- Only 8.1.1.202 and later versions support the cluster switchback.
- A cluster switchback interrupts services for a short period of time. The interruption duration depends on the service volume. You are advised to perform this operation during off-peak hours.

#### **URI**

POST /v1.0/{project\_id}/clusters/{cluster\_id}/switchover

Table 5-162 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

### **Request Parameters**

None

## **Response Parameters**

Table 5-163 Response parameters

Parameter	Туре	Description
job_id	String	ID of the switchback task

## **Example Request**

 $POST\ https://\{Endpoint\}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/switchover$ 

## **Example Response**

"job\_id": "2c9080228ebbc08a018ebcf01cee0409"

#### **Status Code**

Status Code	Description
200	The switchback is successful.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.2.37 Removing the Read-only Status

### **Function**

This API is used to cancel the read-only status on the management console. The read-only state may be triggered because the disk usage is too high. You need to clear the cluster data or expand the cluster capacity.

#### □ NOTE

Only clusters of version 1.7.2 or later support removal of the read-only state.

#### URI

POST /v1.0/{project\_id}/clusters/{cluster\_id}/cancel-readonly

Table 5-164 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.

#### **Request Parameters**

None

None

#### **Example Request**

 $POST\ https://\{Endpoint\}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/cancel-readonly$ 

#### **Example Response**

None

#### **Status Code**

Status Code	Description
200	The read-only state is removed successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.2.38 Adding Disk Capacity

#### **Function**

With the development of customer services, disk space is more likely to become the bottleneck of storage. When other resources are sufficient, disk scale-out can help you quickly break through the storage bottleneck without interrupting services or wasting CPU and memory resources.

#### ■ NOTE

Disk capacity expansion can be performed only for standard data warehouses using SSD, stream data warehouse, or hybrid data warehouses. Only version 8.1.1.203 and later are supported.

#### **URI**

POST /v1.0/{project\_id}/clusters/{cluster\_id}/expand-instance-storage

Table 5-165 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.

**Table 5-166** Request body parameters

Parameter	Mandatory	Туре	Description
new_size	Yes	Integer	Available storage capacity of a single node after disk scale-out (GB/node)
			The capacity must be greater than the valid capacity of a current node and less than or equal to the maximum capacity of a single node, which is determined by the cluster flavor. The capacity to be expanded must be a multiple of the step of a certain flavor. You can query the cluster flavor by referring to Querying Node Types.

## **Response Parameters**

None

## **Example Request**

Expand the cluster disk capacity to 200 GB on a single node.

 $POST\ https://\{Endpoint\}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/b5c45780-1006-49e3-b2d5-b3229975bbc7/expand-instance-storage$ 

```
{
_ "new_size" : 200
```

## **Example Response**

None

#### **Status Code**

Status Code	Description
200	Disk expanded successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.2.39 Querying Cluster CN Nodes**

## **Function**

This API is used to query information about CNs in a specified cluster.

#### **URI**

GET /v1.0/{project\_id}/clusters/{cluster\_id}/cns

Table 5-167 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

None

Status code: 200

**Table 5-168** Response body parameters

Parameter	Туре	Description
min_num	Integer	Minimum number of CN nodes allowed
max_num	Integer	Maximum number of CN nodes allowed
instances	Array of CoordinatorN ode objects	List of CN nodes

#### Table 5-169 CoordinatorNode

Parameter	Туре	Description
id	String	Node ID
name	String	Node name
private_ip	String	Private IP address

## **Example Request**

 $\label{lem:GET https://Endpoint} $$ GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/cns} $$$ 

## **Example Response**

Status code: 200

Succeeded in querying the cluster CN node.

```
{
    "min_num" : 2,
    "max_num" : 3,
    "instances" : [ {
        "id" : "e07d1bfb-6eac-4827-96e0-d10b8ca29c41",
        "name" : "demo-dws-cn-cn-1-1",
        "private_ip" : "172.16.69.106"
    } ]
}
```

Status Code	Description
200	Succeeded in querying the cluster CN node.
400	Request error.

Status Code	Description
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.2.40 Adding CN Nodes in Batches**

## **Function**

This API is used to add CNs in batches to a specified cluster. After a cluster is created, the number of required CNs varies with service requirements. The CN management function enables you to adjust the number of CNs in the cluster.

#### □ NOTE

- Do not perform other O&M operations when adding or deleting a CN.
- Stop services when adding or deleting a CN.

#### URI

POST /v1.0/{project\_id}/clusters/{cluster\_id}/cns/batch-create

Table 5-170 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-171** Request body parameters

Parameter	Mandatory	Туре	Description
num	Yes	Integer	Total number of CNs in the cluster after the batch adding
			The number of CNs supported by a cluster depends on the cluster version and number of nodes. For details, see  Querying Cluster CN Nodes, where min_num indicates the minimum number of CNs supported, and max_num indicates the maximum number of CNs supported.

## **Response Parameters**

Status code: 200

**Table 5-172** Response body parameters

Parameter	Туре	Description
job_id	String	ID of the task for adding CN nodes in batches.

## **Example Request**

Add 3CN nodes in batches:

```
POST https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/b5c45780-1006-49e3-b2d5-b3229975bbc7/cns/batch-create
```

```
์ "num" : 3
เ
```

## **Example Response**

Status code: 200

The CN nodes are successfully added in batches.

```
{
    "job_id" : "2c908185841339ce018414e9944b0020"
}
```

#### **Status Code**

Status Code	Description
200	The CN nodes are successfully added in batches.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## **5.2.41 Deleting CN Nodes in Batches**

#### **Function**

This API is used to delete CNs from a specified cluster.

After a cluster is created, the number of required CNs varies with service requirements. The CN management function enables you to adjust the number of CNs in the cluster.

#### ■ NOTE

- Do not perform other O&M operations when adding or deleting a CN.
- Stop services when adding or deleting a CN.

#### URI

POST /v1.0/{project\_id}/clusters/{cluster\_id}/cns/batch-delete

Table 5-173 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-174** Request body parameters

Parameter	Mandatory	Туре	Description
instances	No	Array of strings	IDs of the CNs to be deleted

## **Response Parameters**

Status code: 200

**Table 5-175** Response body parameters

Parameter	Туре	Description
job_id	String	ID of the task for deleting CN nodes in batches.

## **Example Request**

Remove CN nodes (CN Node ID = b6ad3dc3-d2de-4d2c-a5df-fdde58eca8f0) in batches:

```
POST https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/b5c45780-1006-49e3-b2d5-b3229975bbc7/cns/batch-delete

{
    "instances" : [ "b6ad3dc3-d2de-4d2c-a5df-fdde58eca8f0" ]
}
```

## **Example Response**

Status code: 200

The CN nodes are successfully deleted in batches.

```
{
    "job_id" : "2c908185841339ce018414e9944b0020"
    }
```

Status Code	Description
200	The CN nodes are successfully deleted in batches.
400	Request error.
401	Authentication failed.

Status Code	Description
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.2.42 Querying a Cluster Parameter Group

#### **Function**

This API is used to query the parameter group associated with a cluster.

#### URI

GET /v1.0/{project\_id}/clusters/{cluster\_id}/configurations

Table 5-176 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

### **Request Parameters**

None

## **Response Parameters**

Status code: 200

Table 5-177 Response body parameters

Parameter	Туре	Description
configurations	Array of ClusterConfig uration objects	Parameter group details

<b>Table 5-178</b>	ClusterConfiguration
--------------------	----------------------

Parameter	Туре	Description	
id	String	Parameter group ID	
name	String	Parameter group name	
type	String	Parameter group type	
status	String	Cluster parameter status	
		In-Sync: synchronized	
		Applying: in application	
		Pending-Reboot: restart for the modification to take effect	
		Sync-Failure: application failed	
fail_reason	String	Cause of the parameter application failure	

#### **Example Request**

 $GET\ https://\{Endpoint\}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/configurations$ 

### **Example Response**

#### Status code: 200

Succeeded in querying the cluster parameter group.

```
"configurations" : [ {
 "id": "509be37f-5420-40fb-89c2-0c5c9b8c90f6",
 "name" : "defaultGUCConfig",
"type" : "GUCConfig",
 "status" : "In-Sync",
"fail_reason" : "null"
}, {
 "id": "3f62172a-8258-46a3-a761-e691265d6689",
 "name" : "parameterGroupFor_3bc94408-265d-4076-8c6d-cc35ebc2c747", "type" : "hiddenParameterGroup", "status" : "In-Sync",
 "fail_reason" : "null"
}, {
 "id": "93cb2c86-a598-48ca-8c2c-0389f4b78511",
 "name" : "defaultOBSConfig",
"type" : "OBSConfig",
"status" : "In-Sync",
 "fail_reason" : "null"
}, {
 "id" : "3f377a36-1fa2-48fe-a1fa-a8801dae01ed",
 "name": "Default-Parameter-Template-DWS-8_2_0",
 "type" : "parameterGroup",
"status" : "In-Sync",
 "fail_reason" : "null"
 "id": "d8f9ec5a-8235-4000-9433-187409738e8b",
```

```
"name" : "security-paragroup-dws",

"type" : "securityParameterGroup",

"status" : "In-Sync",

"fail_reason" : "null"

} ]
}
```

Status Code	Description
200	Succeeded in querying the cluster parameter group.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## **5.2.43 Querying Cluster Parameter Settings**

#### **Function**

This API is used to query the parameter group associated with a cluster.

#### **URI**

GET /v1.0/{project\_id}/clusters/{cluster\_id}/configurations/{configuration\_id}

Table 5-179 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
configuration_ id	Yes	String	Parameter group ID

None

## **Response Parameters**

**Table 5-180** Response body parameter

Parameter	Туре	Description
configurations	Array of Configuratio nParameter objects	Parameter configuration parameters

 Table 5-181 ConfigurationParameter

Parameter	Туре	Description
name	String	Parameter name
values	Array of Configuratio nParameterU nit objects	Parameter value
unit	String	Parameter unit
type	String	Parameter type. The options are as follows:  • boolean  • string  • integer  • float  • list
readonly	Boolean	Whether the parameter is read-only
value_range	String	Value range
restart_requir ed	Boolean	Whether the instance needs to be restarted
description	String	Parameter description

**Table 5-182** ConfigurationParameterUnit

Parameter	Туре	Description	
type	String	Parameter type. The options are <b>CN</b> and <b>DN</b> .	
value	String	Parameter value	
default_value	String	Default parameter value.	

#### **Example Request**

GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/configurations/2846d355-cd2a-4239-ae54-a7aef0b7963d

### **Example Response**

#### Status code: 200

Succeeded in querying cluster parameter settings.

```
"configurations" : [ {
  "name": "enable_constraint_optimization",
  "values" : [ {
    "type" : "cn",
    "value" : "on",
    "default_value" : "on"
  }, {
    "type" : "dn",
    "value" : "on",
    "default_value" : "on"
  "unit" : null,
  "type" : "boolean",
   "readonly": false,
  "value_range" : "on|off",
  "restart_required": false,
   "description": "Specifies whether the informational constraint optimization execution plan can be used
for an HDFS foreign table."
}]
```

#### **Status Code**

Status Code	Description
200	Succeeded in querying cluster parameter settings.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.

Status Code	Description
503	The service was unavailable.

## 5.2.44 Modifying Parameter Settings of a Cluster

## **Function**

This API is used to modify the parameter settings of a cluster.

#### **URI**

PUT /v2/{project\_id}/clusters/{cluster\_id}/configurations/{configuration\_id}

Table 5-183 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
configuration_ id	Yes	String	Parameter group ID

## **Request Parameters**

**Table 5-184** Request body parameters

Parameter	Mandatory	Туре	Description
configurations	Yes	Array of Configuratio nParameterV alue objects	Cluster parameter configuration list

**Table 5-185** ConfigurationParameterValue

Parameter	Mandatory	Туре	Description
type	Yes	String	Parameter type. The options are <b>CN</b> and <b>DN</b> .
name	Yes	String	Parameter name
value	Yes	String	Parameter value

## **Response Parameters**

None

## **Example Request**

Set the CN type and DN type in the **enable\_constraint\_optimization parameter** to **off**:

```
PUT https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/configurations/2846d355-cd2a-4239-ae54-a7aef0b7963d

{
    "configurations" : [ {
        "type" : "cn",
        "name" : "enable_constraint_optimization",
        "value" : "off"
    }, {
        "type" : "dn",
        "name" : "enable_constraint_optimization",
        "value" : "off"
    } ]
}
```

## **Example Response**

None

#### **Status Code**

Status Code	Description
200	The cluster parameter settings are modified successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## **5.2.45 Querying Snapshot Statistics**

#### **Function**

This API is used to query snapshot statistics.

#### URI

GET /v1.0/{project\_id}/clusters/{cluster\_id}/snapshots/statistics

Table 5-186 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

None

## **Response Parameters**

Table 5-187 Response body parameters

Parameter	Туре	Description
statistics	Array of SnapshotsSta tistic objects	Snapshot statistics

 Table 5-188
 SnapshotsStatistic

Parameter	Туре	Description
name	String	Resource statistics category
		• storage.free
		storage.paid
		• storage.used
value	Number	Resource statistics value

Parameter	Туре	Description
unit	String	Resource statistics unit

## **Example Request**

 $GET\ https://\{Endpoint\}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/snapshots/statistics$ 

### **Example Response**

#### Status code: 200

Succeeded in querying snapshot statistics.

```
{
  "statistics" : [ {
      "name" : "storage.free",
      "value" : 300.0,
      "unit" : "GB"
}, {
      "name" : "storage.paid",
      "value" : 0,
      "unit" : "GB"
}, {
      "name" : "storage.used",
      "value" : 128.5,
      "unit" : "GB"
} ]
```

#### **Status Code**

Status Code	Description
200	Succeeded in querying snapshot statistics.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## 5.2.46 Querying the Nodes to Be Removed for Scale-In

#### **Function**

This API is used to query the proper number of nodes to be removed for scale-in.

#### **URI**

GET /v1.0/{project\_id}/clusters/{cluster\_id}/shrink-numbers

Table 5-189 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

None

## **Response Parameters**

Status code: 200

Table 5-190 Response body parameters

Parameter	Туре	Description
shrink_sequen ce	Array of strings	The proper number of nodes to be removed.

#### **Example Request**

 $\label{lem:general:prop:general:gene$ 

## **Example Response**

Status code: 200

"shrink\_sequence" : [ 3, 7 ]

#### **Status Code**

Status Code	Description
200	Succeeded in querying the proper number of nodes to be removed for scale-in.

Status Code	Description
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## **5.2.47 Querying Cluster Instance Information**

## **Function**

This API is used to obtain the host ID, IP addresses, and logical cluster relationships of a GaussDB(DWS) cluster.

#### URI

GET /v2/{project\_id}/clusters/{cluster\_id}/instances

Table 5-191 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

None

## **Response Parameters**

**Table 5-192** Response body parameters

Parameter	Туре	Description
cluster_id	String	Cluster ID.
cluster_name	String	Cluster name
cluster_status	String	Cluster status
instances	Array of instances objects	Instance information

#### Table 5-193 instances

Parameter	Туре	Description
instance_id	String	Instance ID
instance_nam e	String	Instance name
instance_statu s	String	Instance status
traffic_ip	String	Service IP address
internal_ip	String	Internal communication IP address
logical_cluster _name	String	Name of the logical cluster

### **Example Request**

 $https://\{Endpoint\}/rds/v2/9b06d044ea4f49f1a58b2bed2b0084bd/clusters/9b7ff56b-47b3-4d00-a1fd-4c023d34404b/instances$ 

### **Example Response**

```
{
    "cluster_id" : "c0fb266a-4404-4eb2-8881-ac74c8a2f2cc",
    "cluster_name" : "ty-default--BGy6PUIN-K",
    "cluster_status" : "AVAILABLE",
    "instances" : [ {
        "instance_id" : "3a37f794-be37-42d1-a299-a3eb94888ccb",
        "instance_name" : "ty-default--BGy6PUIN-K-dws-cn-cn-2-1",
        "instance_status" : "AVAILABLE",
        "traffic_ip" : "192.168.0.80",
        "internal_ip" : "172.16.65.89",
        "logical_cluster_name" : "test_logical"
    }, {
        "instance_id" : "8763cbf1-5851-44a5-9e71-cbae35201f27",
        "instance_name" : "ty-default--BGy6PUIN-K-dws-dn-1-1",
        "instance_status" : "AVAILABLE",
        "traffic_ip" : "192.168.0.88",
```

```
"internal_ip": "172.16.67.64",

"logical_cluster_name": "test_logical"
}, {

"instance_id": "a57e49db-c04b-45c7-9863-f7b6f3eed1b8",

"instance_name": "ty-default--BGy6PUIN-K-dws-cn-cn-1-1",

"instance_status": "AVAILABLE",

"traffic_ip": "192.168.0.217",

"internal_ip": "172.16.66.153",

"logical_cluster_name": "test_logical"
} ]
```

Status Code	Description
200	The cluster instance information is queried.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## 5.2.48 Querying the Cluster Specification Details

### **Function**

This API is used to query details about the specifications used by a cluster.

#### URI

GET /v2/{project\_id}/clusters/{cluster\_id}/flavor

Table 5-194 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.

**Table 5-195** Query parameters

Parameter	Mandatory	Туре	Description
namespace	No	String	Namespace.

None.

## **Response Parameters**

**Table 5-196** Response body parameters

Parameter	Туре	Description
flavor	ClusterFlavor DetailInfo object	Cluster specification details.

Table 5-197 ClusterFlavorDetailInfo

Parameter	Туре	Description
id	String	Flavor ID.
spec_name	String	Specification code.
current_node	Integer	Number of existing nodes.
min_node	Integer	Minimum number of nodes.
max_node	Integer	Maximum number of nodes.
classify	String	Flavor type.
datastore_ver sion	String	Data warehouse version.
attribute	Array of FlavorAttribu teInfo objects	Extended information.
volume_node	FlavorVolum eNodeInfo object	Specifications used by the cluster.

#### Table 5-198 FlavorAttributeInfo

Parameter	Туре	Description
code	String	Attribute code.
value	String	Attribute value.

#### Table 5-199 FlavorVolumeNodeInfo

Parameter	Туре	Description
volume_type	String	Storage type used by the node.
volume_num	Integer	Number of disks used by a node.
capacity	Integer	Valid capacity of a node after copies are removed.
volume_size	Integer	Capacity of a single disk on a node.

### **Example Request**

GET https://{Endpoint}/v2/05f2cff45100d5112f4bc00b794ea08e/clusters/c4b7a057-b121-4a80-9855-8d850108f85f/flavor

https://127.0.0.1:1000/rds/v2/05f2cff45100d5112f4bc00b794ea08e/clusters/c4b7a057-b121-4a80-9855-8d850108f85f/flavor

### **Example Response**

#### Status code: 200

#### Cluster specification details

```
"flavor" : {
"id": "d60ef487-7aa8-44b7-969a-d543ddc5b96f",
"spec_name" : "dwsk2.xlarge",
"current_node" : 3,
 "min_node": 3,
 "max_node" : 256,
"classify" : "dws",
"attribute" : [ {
  "code" : "cpuNum",
"value" : "4"
}, {
  "code" : "diskType",
  "value" : "SSD"
}, {
  "code" : "ioGbSec",
  "value" : ""
}, {
    "code" : "localDisk",
}, {
   "code" : "maxQueue",
  "value" : ""
  "code" : "memSize",
```

```
"value": "32"
} ],

"volume_node": {

"volume_type": "SATA",

"volume_num": 2,

"capacity": 100,

"volume_size": 100
},

"datastore_version": "8.3.0.201"
}
```

Status Code	Description
200	Cluster specification details.
400	Request error.
401	Authorization failed.
403	No operation permission.
404	No resources found.
500	Internal service error.
503	The service was unavailable.

# 5.2.49 Querying the Disk Usage of a Tenant Management Node

#### **Function**

This API is used to query the disk usage of a tenant management node.

#### URI

GET /v1/{project\_id}/clusters/{cluster\_id}/volume

Table 5-200 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

Table 5-201 Query parameters

Parameter	Mandatory	Туре	Description
namespace	No	String	Namespace

None

## **Response Parameters**

Status code: 200

Table 5-202 Response body parameters

Parameter	Туре	Description
duplicate	Integer	Number of copies
disk_info_list	Array of DiskInfoResp onse objects	Disk information list

#### Table 5-203 DiskInfoResponse

Parameter	Туре	Description
percentage	String	Percentage
disk_capacity	String	Disk size
disk_used	String	Occupied disk space
role	String	Role
id	String	Node ID
group	String	Group
name	String	DR task name

## **Example Request**

 $\label{lem:general:prop:section} $$\operatorname{GET}$ $$ $\operatorname{https://\{Endpoint\}/v1/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/volume} $$$ 

## **Example Response**

Status code: 200

"duplicate" : 2,

```
"disk_info_list" : [ {
    "percentage" : 0.92,
    "disk_capacity" : 800,
    "disk_used" : 7.37,
    "role" : null,
    "id" : "93cb2c86-a598-48ca-8c2c-0389f4b78543",
    "group" : null,
    "name" : "test-default-k-dws-cn-cn-1-1"
}, {
    "percentage" : 0.93,
    "disk_capacity" : 600,
    "disk_used" : 5.37,
    "role" : null,
    "id" : "93cb9c86-a498-48ca-8c2c-0389f4b78543",
    "group" : null,
    "name" : "test-default-k-dws-cn-cn-2-1"
} ]
```

Status Code	Description
200	The disk usage of the tenant side nodes is queried.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## 5.2.50 Obtaining the Disk Scale-Out Range

#### **Function**

This API is used to obtain the disk scale-out range.

#### URI

GET /v1/{project\_id}/clusters/{cluster\_id}/storage-expand-range

#### Table 5-204 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.

None

## **Response Parameters**

Status code: 200

**Table 5-205** Response body parameters

Parameter	Туре	Description
min_size	Integer	Minimum value
max_size	Integer	Maximum value
current_size	Integer	Current value

## **Example Request**

 $\label{lem:GET https://{Endpoint}/v1/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/storage-expand-range} \\$ 

## **Example Response**

Status code: 200

```
"min_size" : 100,
"max_size" : 2000,
"current_size" : 100
```

#### **Status Code**

Status Code	Description
200	The disk scale-out range is obtained.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.

Status Code	Description
500	Internal server error.
503	The service was unavailable.

## **5.2.51 Obtaining Cluster Encryption Information**

#### **Function**

This API is used to obtain cluster encryption information.

#### URI

GET /v1/{project\_id}/clusters/{cluster\_id}/encrypt-info

Table 5-206 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

None

## **Response Parameters**

**Table 5-207** Response body parameters

Parameter	Туре	Description
id	String	ID
cluster_id	String	Cluster ID
master_key_id	String	Master key ID
master_key_n ame	String	Name of the master key

Parameter	Туре	Description
last_rotate_ke y_time	String	Last key rotation time
crypt_algorith m	String	Encryption algorithm

### **Example Request**

 $\label{lem:general:g$ 

### **Example Response**

#### Status code: 200

```
{
    "id" : "93cb2c86-a598-48ca-8c2c-0389f4b78543",
    "cluster_id" : "33cb2c86-a598-45ca-8c2c-0389f4b78549",
    "master_key_id" : "40cb2c86-a598-48ca-8c2c-0389f4b78586",
    "master_key_name" : "KMS-d97c",
    "last_rotate_key_time" : null,
    "crypt_algorithm" : "generalCipher"
}
```

#### **Status Code**

Status Code	Description
200	The cluster encryption information is obtained.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## 5.2.52 Checking Before Disk Capacity Expansion

#### **Function**

This API is used to perform a check before disk capacity expansion.

#### **URI**

POST /v1/{project\_id}/clusters/{cluster\_id}/check-instance-storage

Table 5-208 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

#### Table 5-209 Query parameters

Parameter	Mandatory	Туре	Description
namespace	No	String	Namespace

## **Request Parameters**

Table 5-210 Request body parameters

Parameter	Mandatory	Туре	Description
new_size	Yes	Integer	Available storage capacity of a single node after expansion

## **Response Parameters**

None

## **Example Request**

 $POST\ https://\{Endpoint\}/v1/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/check-instance-storage$ 

```
{
  "new_size" : 6
เ
```

## **Example Response**

Status Code	Description
200	The disk is checked.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## **5.2.53 Querying Parameter Modification Audit Records**

## **Function**

This API is used to query parameter modification audit records.

#### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/configurations/audit-records

Table 5-211 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-212** Query parameters

Parameter	Mandatory	Туре	Description
action_time	No	Long	Task time
filter_by	No	String	Filter configuration information
filter	No	String	Filtering criteria

Parameter	Mandatory	Туре	Description
limit	No	Integer	Number of records to be queried
offset	No	Integer	Offset

None

## **Response Parameters**

Status code: 200

**Table 5-213** Response body parameter

Parameter	Туре	Description
records	Array of Configuratio nRecordResp objects	Records
count	Integer	Total number

Table 5-214 ConfigurationRecordResp

Parameter	Туре	Description
id	String	ID.
operator	String	Operation
start_time	String	Start time
end_time	String	End time
status	String	Running status
failed_reason	String	Cause of failure

## **Example Request**

 $\label{lem:general:prop:general:gene$ 

## **Example Response**

```
{
    "records" : [ {
        "id" : 1,
        "operator" : null,
        "start_time" : "2023-06-10T16:23:21.000Z",
        "end_time" : null,
        "failed_reason" : null
}, {
        "id" : 2,
        "operator" : null,
        "start_time" : "2023-06-10T16:23:32.000Z",
        "end_time" : null,
        "start_time" : null,
        "status" : null,
        "failed_reason" : null
} ],
        "count" : 10
```

Status Code	Description
200	The parameter modification audit records are queried.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## **5.2.54 Saving Cluster Description**

#### **Function**

This API is used to save cluster description.

#### URI

POST /v1/{project\_id}/clusters/{cluster\_id}/description

#### Table 5-215 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

Table 5-216 Query parameters

Parameter	Mandatory	Туре	Description
namespace	No	String	Namespace

**Table 5-217** Request body parameters

Parameter	Mandatory	Туре	Description
description_in fo	Yes	String	Cluster description

## **Response Parameters**

Status code: 200

**Table 5-218** Response body parameters

Parameter	Туре	Description
error_code	String	Error code
error_msg	String	Error message

## **Example Request**

```
POST https://{Endpoint}/v1/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/description

{
   "description_info" : "desc info"
}
```

## **Example Response**

```
{
"error_code" : "DWS.0138",
```

```
"error_msg" : null
```

Status Code	Description
200	Cluster description is saved.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## 5.2.55 Scale-in Check

#### **Function**

This API is used for scale-in check.

#### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/shrink-check

**Table 5-219** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-220** Query parameters

Parameter	Mandatory	Туре	Description
shrink_count	Yes	Integer	Scale-in amount

Parameter	Mandatory	Туре	Description
check_item	Yes	String	Check items:  • guc: global configuration parameter.  • schema  • disk

None

## **Response Parameters**

Status code: 200

Table 5-221 Response body parameters

Parameter	Туре	Description
is_passed	Boolean	Whether the check is passed

## **Example Request**

GET https://{Endpoint}/v1/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/shrink-check?shrink\_count=3&check\_item=disk

## **Example Response**

Status code: 200

```
{
    "is_passed" : true
}
```

#### **Status Code**

Status Code	Description
200	Scale-in check succeeded.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.

Status Code	Description
503	The service was unavailable.

## 5.2.56 Querying the List of Flavors That Can Be Changed

## **Function**

This API is used to query the list of flavors that can be changed.

#### URI

GET /v1/{project\_id}/flavors/{flavor\_id}/target-flavors

#### Table 5-222 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
flavor_id	Yes	String	Specification ID.

#### **Table 5-223** Query parameters

Parameter	Mandatory	Туре	Description
limit	No	Integer	Number of records to be queried
offset	No	Integer	Offset

## **Request Parameters**

None

#### **Response Parameters**

**Table 5-224** Response body parameters

Parameter	Туре	Description
flavors	Array of FlavorInfoRes ponse objects	Flavor list
count	Integer	Total number

#### Table 5-225 FlavorInfoResponse

Parameter	Туре	Description
id	String	ID.
name	String	Name
vcpus	String	Number of vCPUs
ram	String	Memory size. The unit is MB.
is_current_flav or	Boolean	Whether the flavor is the currently used flavor

## **Example Request**

 $\label{lem:GET https://{Endpoint}/v1/89cd04f168b84af6be287f71730fdb4b/flavors/4ca46bf1-5c61-48ffb4f3-0ad4e5e3ba90/target-flavors} \\$ 

## **Example Response**

```
{
    "flavors" : [ {
        "id" : "65cb2c86-a598-48ca-8c2c-0389f4b78196",
        "name" : "dwsx2.2xlarge",
        "vcpus" : 8,
        "ram" : 64,
        "is_current_flavor" : false
    }, {
        "id" : "75cb2c86-a598-48ca-8c2c-0389f4b78197",
        "name" : "dwsx2.8xlarge",
        "vcpus" : 32,
        "ram" : 256,
        "is_current_flavor" : false
    } ],
    "count" : 10
}
```

Status Code	Description
200	The list of flavors that can be changed is queried.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## 5.2.57 Changing Flavors

## **Function**

This API is used to change flavors.

#### **URI**

POST /v1/{project\_id}/clusters/{cluster\_id}/flavor

Table 5-226 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

**Table 5-227** Request body parameters

Parameter	Mandatory	Туре	Description
target_flavor_i d	Yes	String	Target flavor ID.

Parameter	Mandatory	Туре	Description
force_backup	Yes	Boolean	Whether to forcibly back up data

## **Response Parameters**

Status code: 200

**Table 5-228** Response body parameter

Parameter	Туре	Description
job_id	String	Job ID.
error_code	String	Error code
error_msg	String	Error message

## **Example Request**

```
POST https://{Endpoint}/v1/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/flavor

{
    "target_flavor_id" : "3228256e-81c6-4976-bb45-5d8665ab5f25",
    "force_backup" : false
}
```

## **Example Response**

Status code: 200

```
{
    "job_id" : "53cb2c86-a598-48ca-8c2c-0389f4b56543",
    "error_code" : "DWS.0000",
    "error_msg": "request succeeded!"
}
```

#### **Status Code**

Status Code	Description
200	The flavor is changed.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.

Status Code	Description
500	Internal server error.
503	The service was unavailable.

## 5.2.58 Querying Available Operations of the Current Tenant

#### **Function**

This API is used to query available operations of the current tenant.

#### **URI**

GET /v1/{project\_id}/actions

Table 5-229 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

#### **Table 5-230** Query parameters

Parameter	Mandatory	Туре	Description
limit	No	Integer	Default value: 10
offset	No	Integer	Default value: <b>0</b>

## **Request Parameters**

None

## **Response Parameters**

Table 5-231 Response body parameters

Parameter	Туре	Description
action_info	Array of strings	Operation information

Parameter	Туре	Description
count	Integer	Total number

## **Example Request**

GET https://{Endpoint}/v1/89cd04f168b84af6be287f71730fdb4b/actions

## **Example Response**

Status code: 200

```
{
    "action_info" : [ "ColdStorage", "DwsV3Storage" ],
    "count" : 2
}
```

#### **Status Code**

Status Code	Description
200	Available operations of the current tenant are queried.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## 5.2.59 Querying an Instance

## **Function**

This API is used to query an instance.

#### URI

GET /v2/{project\_id}/instances/{instance\_id}

**Table 5-232** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
instance_id	Yes	String	Instance ID For details about how to obtain the ID, see  Obtaining the Cluster ID.

None

## **Response Parameters**

**Table 5-233** Response body parameters

Parameter	Туре	Description
configuration_ status	String	Configuration status
params_group _id	String	Parameter group ID
type	String	Туре
subnet_id	String	Subnet ID
role	String	Role
internal_subn et_id	String	Internal subnet ID
group	String	Group
secure_group	String	Security group
vpc	String	VPC.
azcode	String	Code
region	String	Region
cluster_id	String	Cluster ID
created	String	Time when the instance is created
updated	String	Time when the instance is updated

Parameter	Туре	Description
status	String	Running status
name	String	Name
links	Array of LinkResp objects	Connections
id	String	ID
flavor	ClusterFlavor Resp object	Flavor
volume	CompatibleIn stanceVolum eResp object	Capacity
datastore	CompatibleD ataStoreResp object	Database version
fault	CompatibleF aultResp object	Whether the flavor is the currently used flavor
configuration	CompatibleC onfiguration Resp object	Whether the flavor is the currently used flavor
locality	String	Location
replicas	Array of CompatibleR eplicasResp objects	Backup
db_user	String	Database user
storage_engin e	String	Storage engine
pay_model	Integer	Payment method
public_ip	String	Public IP address
traffic_ip	String	Traffic IP address

Table 5-234 ClusterFlavorResp

Parameter	Туре	Description
id	String	ID

Parameter	Туре	Description
links	Array of LinkResp objects	Connections

## Table 5-235 CompatibleInstanceVolumeResp

Parameter	Туре	Description
type	String	Туре
used	Float	Connections
size	Integer	Size

#### Table 5-236 CompatibleDataStoreResp

Parameter	Туре	Description
type	String	Туре
version	String	Version

#### Table 5-237 CompatibleFaultResp

Parameter	Туре	Description
message	String	Information
created	String	Creator
details	String	Details

Table 5-238 CompatibleConfigurationResp

Parameter	Туре	Description
id	String	ID
name	String	Name
links	Array of LinkResp objects	Connections

Table 5-239 CompatibleReplicasResp

Parameter	Туре	Description
id	String	ID
name	String	Name
links	Array of LinkResp objects	Connections

### Table 5-240 LinkResp

Parameter	Туре	Description
rel	String	Association
href	String	Connections

## **Example Request**

GET https://{Endpoint}/v1/89cd04f168b84af6be287f71730fdb4b/instances/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90

## **Example Response**

```
"configuration_status": "In-Sync",
"params_group_id" : "53cb2c86-a598-58ca-8c2c-0389f4b78912",
"type" : "dws-cn",
"subnet_id": "43cb2c86-a598-59ca-8c2c-0380f4b78613",
"role" : "Standalone",
"internal_subnet_id": "73cb3c86-a598-59ca-8c2c-0380f4b78659",
"group" : "cn-1",
"secure_group" : null,
"vpc": "62cb2c86-a598-58ca-8c2c-0389f4b78954",
"azcode" : "az1.dc1",
"region" : "az1.dc1",
"cluster_id": "85cb3c86-a598-59ca-8c2c-0380f4b78613",
"created": "2023-02-24T02:25:36", 
"updated": "2023-02-24T09:25:36",
"status" : null,
"name" : "test-dws-cn-cn-1-1",
"links" : [ {
    "rel" : "self",
 "href" : null
}, {
    "rel" : "bookmark",
 "href" : null
} ],
"id" : "13cb2c86-a598-48ca-8c2c-0389f4b78963",
"flavor" : {
 "id": "46cb2c86-a598-48ca-8c2c-0389f4b78545",
 "links" : [ {
    "rel" : "self",
   "href" : null
```

```
"rel" : "bookmark",
"href" : null
  }]
 "volume" : null,
 "datastore" : {
  "type" : "dws3.0",
   "version" : "9.0.0"
},
"fault" : null,
"configuration" : {
    "id" : "56cb2c86-a598-48ca-8c2c-0389f4b78549",
  "name" : "test",
  "links" : [ {
    "rel" : "self",
    "href" : null
 }, {
    "rel" : "bookmark",
    "href" : null
  }]
"locality" : null,
"replicas" : null,
"db_user" : "admin",
 "storage_engine" : null,
 "pay_model" : 0,
"public_ip" : null,
"traffic_ip" : "192.168.13.132"
```

### **Status Code**

Status Code	Description
200	The instance is queried.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.2.60 Converting an Ordinary Cluster to an Encrypted Cluster

### **Function**

This API is used to convert an ordinary cluster to an encrypted cluster.

### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/encrypt

Table 5-241 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-242** Request body parameters

Parameter	Mandatory	Туре	Description
encrypt	Yes	<b>EncryptInfo</b> object	Key information

Table 5-243 EncryptInfo

Parameter	Mandatory	Туре	Description
master_key_id	Yes	String	Key ID
master_key_n ame	Yes	String	Key name
crypt_algorith m	No	String	Encryption algorithm

# **Response Parameters**

Status code: 200

Table 5-244 Response body parameters

Parameter	Туре	Description
job_id	String	Job ID

# **Example Request**

 $POST\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/encrypt$ 

```
{
  "encrypt" : {
  "crypt_algorithm" : "generalCipher",
  "master_key_id" : "76c38733-793d-4ba5-8adb-909c7955aa73",
  "master_key_name" : "KMS-test"
  }
}
```

# **Example Response**

### Status code: 200

The cluster is converted to an encrypted cluster.

```
{
    "job_id" : "2c9081838417d8850184196d8282002b"
}
```

### **Status Code**

Status Code	Description
200	The cluster is converted to an encrypted cluster.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
500	Internal service error.
503	The service was unavailable.

# 5.2.61 Starting a Cluster

## **Function**

This API is used to start a cluster.

### **URI**

POST /v1/{project\_id}/clusters/{cluster\_id}/start

### **Table 5-245** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

None

# **Response Parameters**

Table 5-246 Response body parameters

Parameter	Туре	Description
error_code	String	Error code
error_msg	String	Error message
job_id	String	ID of the task for starting a cluster

# **Example Request**

POST https://{endpoint}/v1/89cd04f168b84af6be287f71730fdb4b/clusters/97cbaab3-939e-4dbc-9187-0fe240f2b9fd/start

# **Example Response**

Status code: 200

The task for starting a cluster is issued.

```
{
    "error_code" : null,
    "error_msg" : null,
    "job_id" : "2c9080d08cc99d28018ccd139e942498"
}
```

### **Status Code**

Status Code	Description
200	The task for starting a cluster is issued.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
500	Internal service error.

Status Code	Description
503	The service was unavailable.

# 5.2.62 Stopping a Cluster

## **Function**

This API is used to stop a cluster.

### **URI**

POST /v1/{project\_id}/clusters/{cluster\_id}/stop

Table 5-247 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

# **Request Parameters**

None

# **Response Parameters**

Table 5-248 Response body parameters

Parameter Type		Description
error_code	String	Error code
error_msg	String	Error message
job_id	String	ID of the task for stopping a cluster

# **Example Request**

POST https://{endpoint}/v1/89cd04f168b84af6be287f71730fdb4b/clusters/97cbaab3-939e-4dbc-9187-0fe240f2b9fd/stop

## **Example Response**

### Status code: 200

The task for stopping a cluster is issued.

```
{
    "error_code" : null,
    "error_msg" : null,
    "job_id" : "2c9080d08cc99d28018ccd139e942498"
}
```

### **Status Code**

Status Code	Description
200	The task for stopping a cluster is issued.
400	Request error.
401	Authentication failure.
500	Internal service error.
503	The service was unavailable.

# 5.3 Snapshot Management

# 5.3.1 Creating a Snapshot

### **Function**

This API is used to create a snapshot for a specified cluster.

### **URI**

POST /v1.0/{project\_id}/snapshots

### Table 5-249 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

**Table 5-250** Request body parameters

Parameter	Mandatory	Туре	Description
snapshot	Yes	<b>Snapshot</b> object	Snapshot object

Table 5-251 Snapshot

Parameter	Mandatory	Туре	Description
name	Yes	String	Snapshot name, which must be unique and start with a letter. It consists of 4 to 64 characters. The value is caseinsensitive and can contain letters, digits, hyphens (-), and underscores (_) only.
cluster_id	Yes	String	ID of the cluster for which you want to create a snapshot. For details about how to obtain the ID, see Obtaining the Cluster ID.
description	No	String	Snapshot description. If no value is specified, the description is empty. Enter a maximum of 256 characters. The following special characters are not allowed: ! <>'=&"

# **Response Parameters**

**Table 5-252** Response body parameters

Parameter	Туре	Description
snapshot	SnapshotRes p object	Snapshot object

### Table 5-253 SnapshotResp

Parameter	Туре	Description
id	String	Snapshot ID

# **Example Request**

Create a manual snapshot named **snapshot-3** for the cluster whose ID is "44b277eb-39be-4921-be31-3d61b43651d7":

```
POST https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/snapshots

{
    "snapshot" : {
        "name" : "snapshot-3",
        "cluster_id" : "44b277eb-39be-4921-be31-3d61b43651d7",
        "description" : "Snapshot-3 description"
    }
}
```

# **Example Response**

### Status code: 200

The snapshot is created successfully.

```
{
    "snapshot" : {
        "id" : "2a4d0f86-67cd-408a-8b66-017454fb7793"
      }
}
```

### **Status Code**

Status Code	Description
200	The snapshot is created successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.3.2 Creating Snapshots Manually**

## **Function**

This API is used to manually create a snapshot. Cluster snapshots and fine-grained snapshots are supported. Full snapshots and incremental snapshots can be created.

### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/snapshots

Table 5-254 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

# **Request Parameters**

**Table 5-255** Request body parameters

Parameter	Mandatory	Туре	Description
snapshot	Yes	SnapshotReq Info object	Snapshot request information

Table 5-256 SnapshotReqInfo

Parameter	Mandatory	Туре	Description
type	Yes	Integer	Snapshot type. The options are as follows:
			• <b>0</b> : creates a full snapshot (cluster/schema).
			• 1: creates an incremental snapshot.

Parameter	Mandatory	Туре	Description
name	Yes	String	Snapshot name, which must be unique and start with a letter. It consists of 4 to 64 characters, which are case-insensitive and contain letters, digits, hyphens (-), and underscores (_) only.
description	Yes	String	Snapshot description. If this parameter is not specified, the value is null. The value can contain a maximum of 256 characters. The following special characters are not allowed: !<>'=&"
backup_level	No	String	Backup level. The value can be cluster or schema.
database	No	String	Database name. This parameter is mandatory when backup_level is set to schema.
schema_list	No	Array of strings	Database schema list. This parameter is mandatory when backup_level is set to schema.
backup_key	No	String	Backup set. This parameter is mandatory when <b>type</b> is set to <b>1</b> .

# **Response Parameters**

**Table 5-257** Response body parameters

Parameter	Туре	Description
backup	MultiengineB ackup object	Snapshot details
extendparam	MultiengineR spJobs object	Extended snapshot information

Table 5-258 MultiengineBackup

Parameter	Туре	Description
created	String	Creation time

Parameter	Туре	Description	
datastore	Multiengine Datastore object	Database version	
description	String	Description	
id	String	ID	
cluster_id	String	Cluster ID	
cluster_name	String	Cluster name	
name	String	Snapshot name	
size	Double	Snapshot size	
status	String	Snapshot execution status	
updated	String	Update time	
backup_type	String	Snapshot type	
backup_meth od	String	Snapshot method	
bak_expected _start_time	String	Time when snapshot creation is expected to start	
bak_keep_day	Integer	Retention days	
bak_period	String	Snapshot execution plan	
db_user	String	Database username	
progress	String	Progress	
backup_key	String	xxx	
prior_backup_ key	String	xxx	
base_backup_ key	String	xxx	
backup_devic e	String	Backup media	
total_backup_ size	Integer	Total backup size	
base_backup_ name	String	xxx	
support_inpla ce_restore	Boolean	Whether data can be backed up to the current cluster	

Parameter	Туре	Description
fine_grained_ backup	Boolean	Whether fine-grained backup is supported
backup_level	String	Backup level, which can be <b>cluster</b> or <b>schema</b>
fine_grained_ backup_detail	FineGrainedB ackupDetail object	Fine-grained backup details
guest_agent_v ersion	String	Agent version
cluster_status	String	Cluster status
source_region	String	Source region information
destination_re gion	String	Destination region information

## Table 5-259 MultiengineDatastore

Parameter	Туре	Description
type	String	Туре
version	String	Version

# Table 5-260 FineGrainedBackupDetail

Parameter	Туре	Description
database	String	Database name
schemas	Array of strings	Database schema list
tables	Array of strings	Database table list

Table 5-261 MultiengineRspJobs

Parameter	Туре	Description
jobs	Array of strings	Task ID list

## **Example Request**

• Create a schema snapshot.

```
post https://{Endpoint}/v2/0536cdee2200d5912f7cc00b877980f1/clusters/c719b1a7-c85c-4cb5-a721-7694908c2c11/snapshots

{
    "snapshot" : {
        "type" : 0,
        "backup_level" : "schema",
        "database" : "gaussdb",
        "description": "Create a schema snapshot",
        "name" : "backup-test-schema",
        "schema_list" : [ "public" ]
    }
}
```

• Create an incremental snapshot.

```
{
    "snapshot" : {
        "type" : 1,
        "description": "Create an incremental snapshot",
        "name" : "increment-backup-test",
        "backup_key" : 20230801054547
    }
}
```

## **Example Response**

#### Status code: 200

The snapshot is manually created.

```
"backup" : {
 "created": "2023-07-13T06:31:05",
 "datastore" : {
  "type" : "dws"
  "version" : "8.1.3.320"
},
"description" : null,
 "id": "a8ce02d8-d682-46e4-a5e3-a327af07adaf",
 "cluster_id": "c719b1a7-c85c-4cb5-a721-7694908c2c11",
 "cluster_name": "dwstest-813-320",
 "name" : "backup-test-schema",
 "size": 0.0,
 "status" : "BUILDING",
 "backup_type": 1,
 "backup_method": 0,
"prior_backup_key" : "FULL",
"backup_device" : "OBS",
 "total_backup_size" : 0,
 "support_inplace_restore": true,
 "fine_grained_backup" : false,
"guest_agent_version" : "8.2.1.300",
 "cluster_status" : "AVAILABLE",
 "bak_expected_start_time" : 1689234660000,
"bak_keep_day" : 2,
"bak_period" : "0 51 7/8 ? * 2,3,4,5,6,7",
 "db_user" : "dbadmin"
"extendparam" : {
 "jobs": [ "2c9081808949186d01894df2339f0f48" ]
```

### **Status Code**

Status Code	Description
200	The snapshot is manually created.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
500	Internal server error.
503	The service was unavailable.

# **5.3.3 Querying the Snapshot List**

## **Function**

This API is used to query the snapshot list.

### **URI**

GET /v1.0/{project\_id}/snapshots

Table 5-262 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

# **Request Parameters**

None

## **Response Parameters**

**Table 5-263** Response body parameter

Parameter	Туре	Description
snapshots	Array of Snapshots objects	List of snapshot objects

Parameter	Туре	Description	
count	Integer	Total number of snapshot objects	

Table 5-264 Snapshots

Parameter	Туре	Description
id	String	Snapshot ID
name	String	Snapshot name
description	String	Snapshot description
started	String	Time when a snapshot starts to be created. Format: ISO8601: YYYY-MM-DDThh:mm:ssZ
finished	String	Time when a snapshot is complete. Format: ISO8601: YYYY-MM-DDThh:mm:ssZ
size	Double	Snapshot size, in GB
status	String	Snapshot status  CREATING  AVAILABLE  UNAVAILABLE
type	String	Snapshot type  • MANUAL  • AUTOMATED
cluster_id	String	ID of the cluster for which snapshots are created.

# **Example Request**

GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/snapshots

# **Example Response**

#### Status code: 200

The snapshot list is queried successfully.

```
{
    "snapshots" : [ {
        "id" : "2a4d0f86-67cd-408a-8b66-017454fb7793",
        "name" : "snapshot-1",
        "description" : "",
        "started" : "2016-08-23T03:59:23Z",
        "finished" : "2016-08-23T04:01:40Z",
        "size" : 500,
        "status" : "AVAILABLE",
        "type" : "MANUAL",
```

```
"cluster_id": "4f87d3c4-9e33-482f-b962-e23b30d1a18c"
}, {
   "id": "4af11460-06ec-48a4-b3ad-0e3bbdcd8ab1",
   "name": "snapshot-2",
   "description": "",
   "started": "2016-08-23T18:20:00Z",
   "finished": "2016-08-23T18:22:12Z",
   "size": "500,",
   "status": "AVAILABLE",
   "type": "MANUAL",
   "cluster_id": "4f87d3c4-9e33-482f-b962-e23b30d1a18c"
} ],
   "count": 2
```

### **Status Code**

Status Code	Description
200	The snapshot list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.3.4 Querying Snapshot Details

# **Function**

This API is used to query snapshot details using snapshot IDs.

### URI

GET /v1.0/{project\_id}/snapshots/{snapshot\_id}

**Table 5-265** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
snapshot_id	Yes	String	Snapshot ID.

None

# **Response Parameters**

**Table 5-266** Response body parameters

Parameter	Туре	Description	
snapshot	SnapshotDet ail object	Snapshot detail parameters	

Table 5-267 SnapshotDetail

Parameter	Туре	Description	
id	String	Snapshot ID	
name	String	Snapshot name	
description	String	Snapshot description	
started	String	Time when a snapshot starts to be created. Format: ISO8601: YYYY-MM-DDThh:mm:ssZ	
finished	String	Time when a snapshot is complete. Format: ISO8601: YYYY-MM-DDThh:mm:ssZ	
size	Double	Snapshot size, in GB	
status	String	Snapshot status:  CREATING AVAILABLE UNAVAILABLE	
type	String	Snapshot type  • MANUAL  • AUTOMATED	
cluster_id	String	ID of the cluster for which the snapshot is created	
cluster_name	String	Name of the cluster for which the snapshot is created	
backup_key	String	Key generated during backup.	
prior_backup_ key	String	Backup key of the previous snapshot used by the incremental backup. The value <b>FULL</b> indicates a full snapshot.	

Parameter	Туре	Description	
base_backup_ key	String	Backup key of a full snapshot	
backup_devic e	String	Backup media	
total_backup_ size	Long	Accumulated size of a snapshot, from the full backup to the incremental backup. The unit is KB.	
base_backup_ name	String	Name of a full snapshot	
support_inpla ce_restore	Boolean	Whether data can be restored to the original cluster	
fine_grained_ backup	Boolean	Whether the backup is a fine-grained backup	
fine_grained_ backup_detail	FineGrainedS napshotDetai l object	Fine-grained backup information	
guest_agent_v ersion	String	GuestAgent version	
cluster_status	String	Cluster status	
		AVAILABLE	
		UNAVAILABLE	
		• FROZEN	
bak_expected _start_time	String	Estimated snapshot start time	
bak_keep_day	Integer	Backup retention days	
bak_period	String	Cluster policy	
db_user	String	Backup user	
datastore	<b>DataStore</b> object	Database version	
progress	String	Backup progress	
backup_level	String	Backup level  cluster	
		• schema	

Table 5-268 FineGrainedSnapshotDetail

Parameter	Туре	Description
database	String	Database backup
schema_list	Array of String	Backup schema set
table_list	Array of String	Backup table set

### Table 5-269 DataStore

Parameter	Туре	Description	
type	String	Database type	
version	String	Database version	

# **Example Request**

GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/snapshots/b5c45780-1006-49e3-b2d5-b3229975bbc7

# **Example Response**

### Status code: 200

The snapshot details are queried successfully.

```
{
    "snapshot" : {
        "id" : "2a4d0f86-67cd-408a-8b66-017454fb7793",
        "name" : "snapshot-1",
        "description" : "snapshot description",
        "started" : "2016-08-23T03:59:23Z",
        "finished" : "2016-08-23T04:01:40Z",
        "size" : 500,
        "status" : "AVAILABLE",
        "type" : "MANUAL",
        "cluster_id" : "4f87d3c4-9e33-482f-b962-e23b30d1a18c"
    }
}
```

### **Status Code**

Status Code	Description
200	The snapshot details are queried successfully.
400	Request error.
401	Authentication failed.

Status Code	Description
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.3.5 Checking Snapshot Information**

## **Function**

This API is used to verify snapshot information, including the snapshot name.

## **URI**

POST /v1/{project\_id}/snapshots/check

### Table 5-270 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

## **Table 5-271** Query parameters

Parameter	Mandatory	Туре	Description
namespace	No	String	Namespace

**Table 5-272** Request body parameters

Parameter	Mandatory	Туре	Description
snapshot_na me	Yes	String	Snapshot name, which must be unique and start with a letter. It consists of 4 to 64 characters, which are caseinsensitive and contain letters, digits, hyphens (-), and underscores (_) only.

## **Response Parameters**

None

## **Example Request**

```
POST https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/snapshots/check

{
    "snapshot_name" : "cluster_backup_test"
}
```

## **Example Response**

None

### **Status Code**

Status Code	Description
200	Snapshot information checked successfully.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
500	Internal server error.
503	The service was unavailable.

# 5.3.6 Querying Details About the Flavor Used by a Snapshot

### **Function**

This API is used to query details about the flavor used by a snapshot.

### **URI**

GET /v2/{project\_id}/snapshots/{snapshot\_id}/flavor

Table 5-273 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
snapshot_id	Yes	String	Snapshot ID.

**Table 5-274** Query parameters

Parameter	Mandatory	Туре	Description
namespace	No	String	Namespace

# **Request Parameters**

None

# **Response Parameters**

**Table 5-275** Response body parameters

Parameter	Туре	Description
flavor	ProductUnitR esp object	Flavor details

Table 5-276 ProductUnitResp

Parameter	Туре	Description
id	String	Flavor ID.
code	String	Flavor code.
ori_node	Integer	Default number of nodes.
min_node	Integer	Minimum number of nodes.
max_node	Integer	Maximum number of nodes.

Parameter	Туре	Description
capacity	String	Capacity.
classify	String	Flavor type.
scenario	String	Flavor application scenario.
dedicated	String	Dedicated cloud scenario.
version	String	Flavor version. <b>v2.0</b> indicates the cloud data warehouse, and <b>v1.0</b> indicates the standard data warehouse.
product_versi on_list	Array of ProductVersi onResp objects	Images and kernel versions supported by the current flavor.
status	String	Flavor status.
flavor_id	String	ID of the used node flavor.
flavor_code	String	Code of the used node flavor.
volume_num	Integer	Default number of disks in the node flavor.
attribute	Array of ProductExten dResp objects	Extended information.
duplicate	Integer	Capacity information (number of copies used by the flavor).
volume_used	ProductVolu meUsedResp object	Disk specifications used by the cluster.
volume_mode l	Array of ProductVolu meResp objects	Available disk specifications.

Table 5-277 ProductVersionResp

Parameter	Туре	Description
min_cn	Integer	Minimum number of CNs supported by the flavor in this version.
max_cn	Integer	Maximum number of CNs supported by the flavor in this version.

Parameter	Туре	Description
version_type	String	Version type supported by the flavor. 1 indicates the stable version, and 0 indicates the latest version.
datastore_ver sion	String	Version number supported by the flavor.

# Table 5-278 ProductExtendResp

Parameter	Туре	Description
code	String	Code of the extended information of the cluster flavor
value	String	Value of the extended information of the cluster flavor

## Table 5-279 ProductVolumeUsedResp

Parameter	Туре	Description
volume	String	Storage type used by a node. The value can be HIGH, ULTRAHIGH, COMMON, or LOCAL_DISK.
data_volume_ num	Integer	Number of disks used by a node.
product_code	String	CBC product code used by a node.
product_type	String	CBC product type used by a node.
dss_pool_id	String	ID of the dedicated storage pool used by a node.
capacity	Long	Valid capacity of the primary, secondary, and standby nodes after calculation.
physical	Long	Capacity of a single disk on a node

## Table 5-280 ProductVolumeResp

Parameter	Туре	Description
volume	String	Storage type. The value can be <b>HIGH</b> , <b>ULTRAHIGH</b> , <b>COMMON</b> , or <b>LOCAL_DISK</b> .

Parameter	Туре	Description
range	Array of integers	Storage capacity list.

## **Example Request**

GET https://{Endpoint}/v2/0536cdee2200d5912f7cc00b877980f1/snapshots/1653dc00-cbbb-4e42-b78f-d06680cc8128/flavor

## **Example Response**

#### Status code: 200

Details about the flavor used by the snapshot are obtained successfully.

```
"id": "bb2d3dbe-c577-3c10-84ce-5a28e56342f9",
   "code" : "dws2.kc1.2xlarge",
   "capacity" : 400,
"classify" : "dws",
"scenario" : "test",
"version" : "v1.0",
   "status" : "enable",
    "attribute" : [ {
    "code" : "maxQueue",
"value" : null
   }, {
  "code" : "memSize",
     "value" : 32
   }, {
    "code" : "cpuNum",
     "value": 8
    "duplicate" : 2,
   "ori_node" : 3,
   "min_node" : 3,
   "max_node" : 256,
    "product_version_list" : [ {
     "min_cn" : 2,
     "max_cn" : 20,
     "version_type" : 1,
     "datastore_version" : "8.1.3.320"
    "flavor_id" : "72f169d1-2218-4ef0-b653-211d56324320",
   "flavor_code" : "rc6.2xlarge.2",
"volume_num" : 2,
    "volume_used" : {
     "volume": "COMMON",
     "data_volume_num" : 2,
     "product_code": "dws.volume.common",
     "product_type" : "hws.resource.type.dws.volume",
     "capacity" : 400,
"physical" : 400
    "volume_model" : null
```

### **Status Code**

Status Code	Description
200	Details about the flavor used by the snapshot are obtained successfully.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
500	Internal server error.
503	The service was unavailable.

# 5.3.7 Restoring a Snapshot to a Cluster

## **Function**

This API is used to restore a cluster. You can restore a snapshot to a new cluster, the current cluster, or a specified cluster.

### URI

POST /v2/{project\_id}/snapshots/{snapshot\_id}/actions

Table 5-281 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
snapshot_id	Yes	String	Snapshot ID.

**Table 5-282** Query parameters

Parameter	Mandatory	Туре	Description
namespace	No	String	Namespace

**Table 5-283** Request body parameters

Parameter	Mandatory	Туре	Description
action	Yes	Integer	<ul> <li>Restoration action.</li> <li>0: restores data to a new cluster.</li> <li>1: restores data to the current cluster.</li> <li>2: restores data to a specified cluster.</li> </ul>
restore	No	RestoreCluster Req object	Object to be restored.

Table 5-284 RestoreClusterReq

Parameter	Mandatory	Туре	Description
cluster_id	No	String	ID of the cluster to restore data. This parameter cannot be left empty when <b>action</b> is set to <b>2</b> .
name	No	String	Cluster name, which must be unique. The cluster name must contain 4 to 64 characters, which must start with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed. This parameter cannot be left empty when action is set to 0.
subnet_id	No	String	Subnet ID, which is used for configuring the cluster network. The default value is the same as that of the original cluster.
security_grou p_id	No	String	Security group ID, which is used for configuring the cluster network. The default value is the same as that of the original cluster.

Parameter	Mandatory	Туре	Description
vpc_id	No	String	VPC ID, which is used for configuring the cluster network. The default value is the same as that of the original cluster.
availability_zo ne	No	String	AZ of a cluster. The default value is the same as that of the original cluster.
port	No	Integer	Cluster service port.
public_ip	No	PublicIp object	Public IP address. If the parameter is not specified, public connection is not used by default.
enterprise_pro ject_id	No	String	Enterprise project ID. The default enterprise project ID is <b>0</b> .

## Table 5-285 PublicIp

Parameter	Mandatory	Туре	Description
public_bind_ty pe	Yes	String	Binding type of an EIP. The options are as follows:
			auto_assign: automatically assigns an EIP.
			not_use: does not bind an EIP.
			• <b>bind_existing</b> : uses an existing EIP.
eip_id	No	String	EIP ID.

# **Response Parameters**

**Table 5-286** Response body parameters

Parameter	Туре	Description	
cluster_id	String	Cluster ID	
job_id	String	Asynchronous task ID	

## **Example Request**

• Restore data to the current cluster:

```
POST https://{Endpoint}/v2/0536cdee2200d5912f7cc00b877980f1/snapshots/c719b1a7-c85c-4cb5-a721-7694908c2c11/actions

{
    "action": 1
}
```

• Restore data to a specified cluster:

```
{
    "action" : 2,
    "restore" : {
        "cluster_id" : "db9dc71e-d4c3-4443-b610-b847f1a011e8"
        }
    }
```

## **Example Response**

Status code: 200

The snapshot is successfully restored to the cluster.

```
{
    "cluster_id" : "7d85f602-a948-4a30-afd4-e84f47471c15",
    "job_id" : "2c9080458942e9c001894430d8ed0abc"
}
```

### **Status Code**

Status Code	Description
200	The snapshot is successfully restored to the cluster.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
500	Internal server error.
503	The service was unavailable.

# 5.3.8 Deleting a Manual Snapshot

### **Function**

This API is used to delete a manual snapshot.

### URI

DELETE /v1.0/{project\_id}/snapshots/{snapshot\_id}

Table 5-287 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
snapshot_id	Yes	String	Snapshot ID

None

# **Response Parameters**

None

# **Example Request**

 $DELETE\ https://\{Endpoint\}/v1.0/89cd04f168b84af6be287f71730fdb4b/snapshots/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90$ 

## **Example Response**

status CODE 202

## **Status Code**

Status Code	Description
202	The snapshot is deleted successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.3.9 Adding a Snapshot Policy

### **Function**

This API is used to add a snapshot policy.

### **URI**

PUT /v2/{project\_id}/clusters/{cluster\_id}/snapshot-policies

Table 5-288 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.

# **Request Parameters**

**Table 5-289** Request body parameters

Parameter	Mandatory	Туре	Description
keep_day	No	Integer	Retention days The value must range from 1 to 31.
backup_strate gies	No	BackupStrate gyDetail object	Policy list. This parameter is mandatory when you add a policy.
device_name	No	String	Backup device OBS, NBU, and NFS are supported.
server_port	No	String	NBU backup media port. This parameter is mandatory when the backup medium is NBU.
backup_para m	No	String	NBU backup parameters. This parameter is mandatory when the backup medium is NBU.
server_ips	No	Array of strings	IP address of the backup media This parameter is mandatory when the backup medium is NBU or NFS. If the backup medium is NBU, it indicates the address of the NBU server. If the backup medium is NFS, it indicates the address of the NFS server.

Table 5-	<b>290</b> Bac	kupStrate	gyDetail
----------	----------------	-----------	----------

Parameter	Mandatory	Туре	Description
policy_id	No	String	Policy ID
policy_name	No	String	Policy name. This parameter is mandatory when you add a backup policy.
			The policy name must be unique, consist of 4 to 92 characters, and start with a letter. It is case-insensitive and can contain only letters, digits, hyphens (-), and underscores (_).
backup_strate gy	No	String	Execution policy. This parameter is mandatory when you add a backup policy. The value must comply with the Cron expression format.
backup_type	No	String	Backup type. This parameter is mandatory when you add a backup policy.
			• increment
			• full
backup_level	No	String	Backup level. This parameter is mandatory when you add a backup policy.
			cluster

## **Response Parameters**

None

# **Example Request**

add a cluster-level full snapshot policy named **test** and set the snapshot policy to be triggered at 03:00 every Monday to Sunday:

```
PUT https://{Endpoint} /v2/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/snapshot-policies
{
    "backup_strategies": [
        {
            "policy_name": "test",
            "backup_level": "cluster",
            "backup_type": "full",
            "backup_strategy": "0 0 3 ? * 1,2,3,4,5,6,7"
        }
        }
        }
    }
```

## **Example Response**

None

### **Status Code**

Status Code	Description
200	The snapshot policy is added successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.3.10 Previewing a Snapshot Policy

# **Function**

This API is used to preview a snapshot policy. You can view the next seven snapshots.

### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/snapshot-policies/plan

Table 5-291 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

# **Request Parameters**

None

## **Response Parameters**

**Table 5-292** Response body parameters

Parameter	Туре	Description
backup_time	Array of StrategyPrevi ew objects	Snapshot policy preview information list.

### **Table 5-293** StrategyPreview

Parameter	Туре	Description
id	String	Policy ID
time	String	Snapshot time
type	String	Snapshot type
		• full
		• increment
level	String	Snapshot level

# **Example Request**

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/c719b1a7-c85c-4cb5-a721-7694908c2c11/snapshot-policies/plan

# **Example Response**

### Status code: 200

Snapshot policy previewed.

```
{
    "backup_time" : [ {
        "id" : "5cf1c6a9-b074-4cf3-9e46-280f5197d8d9",
        "level" : "cluster",
        "time" : "2023-07-17T08:00:00",
        "type" : "full"
}, {
        "id" : "5cf1c6a9-b074-4cf3-9e46-280f5197d8d9",
        "level" : "cluster",
        "time" : "2023-07-18T00:00:00",
        "type" : "increment"
} ]
```

### **Status Code**

Status Code	Description
200	Snapshot policy previewed.
400	Request error.
401	Authorization failed.
403	No operation permission.
500	Internal server error.
503	The service was unavailable.

# 5.3.11 Querying a Snapshot Policy

## **Function**

This API is used to query a snapshot policy.

## **URI**

GET /v2/{project\_id}/clusters/{cluster\_id}/snapshot-policies

Table 5-294 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

# **Request Parameters**

None

# **Response Parameters**

**Table 5-295** Response body parameters

Parameter	Туре	Description
keep_day	String	Retention days
backup_strate gies	Array of BackupStrate gyDetail objects	Backup policy
device_name	String	Backup device
server_ips	Array of strings	Service IP address
server_port	String	Service port
backup_para m	String	Backup parameters

Table 5-296 BackupStrategyDetail

Parameter	Туре	Description
policy_id	String	Policy ID
policy_name	String	Policy name
backup_strate gy	String	Backup execution policy
backup_type	String	Backup type
backup_level	String	Backup level
next_fire_time	String	Next triggering time
update_time	String	Update time

#### **Example Request**

 $\label{lem:general} $$\operatorname{GET}$ $$ $\operatorname{SFF}(2.89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/snapshot-policies $$\operatorname{SFFF}(2.86b)$ $$\operatorname{SFFF}(2.86$ 

## **Example Response**

```
{
  "keep_day": 3,
  "backup_strategies": [
  {
    "policy_id": "20c8ab14-9201-4d79-bb7c-5c42d1af84b1",
    "policy_name": "test_1031_02-default-full-strategy",
    "backup_strategy": "0 0 2 ? * 1",
    "backup_type": "full",
    "backup_level": "cluster",
    "next_fire_time": "1667700000000",
```

```
"update_time": "2022-10-31T02:54:54"
},
{

"policy_id": "a3c9e2fc-37aa-4088-b0d0-c49dcbb0d2c2",

"policy_name": "test_1031_02-default-increment-strategy",

"backup_strategy": "0 56 2/8 ? * 2,3,4,5,6,7",

"backup_type": "increment",

"backup_level": "cluster",

"next_fire_time": "1667213760000",

"update_time": "2022-10-31T02:54:54"
}
],

"device_name": "obs",

"server_ips": null,

"server_port": null,

"backup_param": ""
}
```

#### **Status Code**

Status Code	Description
200	Succeeded in querying the snapshot policy.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## **5.3.12 Obtaining Backup Policy Details**

#### **Function**

This API is used to obtain details about a backup policy.

#### URI

GET /v1/{project\_id}/clusters/{cluster\_id}/snapshot-policies/{id}

#### Table 5-297 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
id	Yes	String	Policy ID.

None

## **Response Parameters**

Status code: 200

Table 5-298 Response body parameters

	· · · · · · · · · · · · · · · · · · ·	
Parameter	Туре	Description
policy_id	String	Policy ID
policy_name	String	Policy name
backup_strate gy	String	Execution policy
backup_type	String	Backup type
backup_level	String	Backup level
next_fire_time	String	Next triggering time
update_time	String	Update time

### **Example Request**

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/c719b1a7-c85c-4cb5-a721-7694908c2c11/snapshots/policies/11e93775-e2a6-4d09-96dd-b14c2bbffc97

## **Example Response**

Status code: 200

Backup policy details obtained successfully.

```
[
"policy_name": "self-snapshot-test",
    "backup_strategy": "0 0 0 ? * 1,2,4,6",
    "backup_level": "cluster",
    "backup_type": "increment",
    "next_fire_time": 1689292800000,
    "policy_id": "11e93775-e2a6-4d09-96dd-b14c2bbffc97",
    "update_time": "2023-07-12T08:11:31"
}
```

#### **Status Code**

Status Code	Description
200	Backup policy details obtained successfully.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
500	Internal server error.
503	The service was unavailable.

## **5.3.13 Modifying a Snapshot Policy**

### **Function**

This API is used to modify a snapshot policy.

#### **URI**

PUT /v1/{project\_id}/clusters/{cluster\_id}/snapshot-policies/{id}

Table 5-299 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
id	Yes	String	Policy ID.

## **Request Parameters**

**Table 5-300** Request body parameters

Parameter	Mandatory	Туре	Description
policy_id	No	String	Policy ID

Parameter	Mandatory	Туре	Description
policy_name	Yes	String	Policy name The policy name must be unique and start with a letter. It can contain only letters, digits, hyphens (-), and underscores (_).
backup_strate gy	Yes	String	Execution policy The value must comply with the Cron expression format.
backup_type	No	String	Backup type:  • full  • increment
backup_level	No	String	Backup level:  • cluster

## **Response Parameters**

None

## **Example Request**

```
PUT https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/c719b1a7-c85c-4cb5-a721-7694908c2c11/snapshots/policies/11e93775-e2a6-4d09-96dd-b14c2bbffc97

{
    "policy_name" : "self-snapshot-test",
    "backup_strategy" : "0 0 0 ? * 1,2,4,6",
    "backup_level" : "cluster",
    "backup_type" : "increment"
}
```

## **Example Response**

Status code: 200

### **Status Code**

Status Code	Description
200	A snapshot policy modified.
400	Request error.
401	Authorization failed.
403	No operation permission.
500	Internal server error.

Status Code	Description
503	The service was unavailable.

## 5.3.14 Deleting a Snapshot Policy

### **Function**

This API is used to delete a snapshot policy.

#### **URI**

DELETE /v1.0/{project\_id}/clusters/{cluster\_id}/snapshot-policies/{id}

Table 5-301 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
id	Yes	String	Snapshot policy ID

## **Request Parameters**

None

### **Response Parameters**

None

### **Example Request**

DELETE https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/snapshot-policies/4db196c8-32fc-4bf1-bf57-05980bbda9a4

## **Example Response**

None

#### **Status Code**

Status Code	Description
200	Succeeded in deleting the snapshot policy.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## **5.3.15 Restoring a Cluster**

### **Function**

This API is used to restore a cluster using its snapshot.

#### **URI**

POST /v1.0/{project\_id}/snapshots/{snapshot\_id}/actions

**Table 5-302** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
snapshot_id	Yes	String	ID of the snapshot to be restored

## **Request Parameters**

**Table 5-303** Request body parameters

Parameter	Mandatory	Туре	Description
restore	Yes	Restore object	Object to be restored

Table 5-304 Restore

Parameter	Mandatory	Туре	Description
name	Yes	String	Cluster name, which must be unique. The cluster name must contain 4 to 64 characters, which must start with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed.
subnet_id	No	String	Subnet ID, which is used for configuring cluster network. The default value is the same as that of the original cluster.
security_grou p_id	No	String	ID of a security group, which is used for configuring cluster network. The default value is the same as that of the original cluster.
vpc_id	No	String	VPC ID, which is used for configuring cluster network. The default value is the same as that of the original cluster.
availability_zo ne	No	String	AZ of a cluster. The default value is the same as that of the original cluster.
port	No	Integer	Service port of a cluster. The value ranges from 8000 to 30000. The default value is <b>8000</b> . Minimum value: <b>8000</b>
			Maximum value: <b>30000</b>
public_ip	No	PublicIp object	Public IP address. If the parameter is not specified, public connection is not used by default.
enterprise_pro ject_id	No	String	Enterprise project. The default enterprise project ID is <b>0</b> .

Table 5-305 PublicIp

Parameter	Mandatory	Туре	Description
public_bind_ty pe	Yes	String	Binding type of an EIP. The value can be one of the following:  • auto_assign  • not_use  • bind_existing
eip_id	No	String	EIP ID

### **Response Parameters**

Status code: 200

**Table 5-306** Response body parameter

Parameter	Туре	Description
cluster	Cluster object	Cluster object

#### Table 5-307 Cluster

Parameter	Туре	Description
id	String	Cluster ID

### **Example Request**

Restore the snapshot to the new cluster **dws-1**. The new cluster is in AZ **az1.dc1**, the database port is **8000**, and the subnet ID, security group ID, VPC ID, public IP address, and enterprise ID are specified:

## **Example Response**

#### Status code: 200

The cluster is restored successfully.

```
{
    "cluster" : {
        "id" : "7d85f602-a948-4a30-afd4-e84f47471c15"
    }
}
```

#### **Status Code**

Status Code	Description
200	The cluster is restored successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## 5.3.16 Checking the Name of the Table to Be Restored

#### **Function**

This API is used to check the name of the table to be restored.

#### **URI**

POST /v1/{project\_id}/snapshots/{snapshot\_id}/table-restore-check

Table 5-308 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
snapshot_id	Yes	String	Snapshot ID

**Table 5-309** Request body parameters

Parameter	Mandatory	Туре	Description
case_sensitive	Yes	Boolean	Indicates whether the name is case sensitive.
database	Yes	String	Database name
restore_table_ list	Yes	Array of TableDetail objects	Source table information
target_table_li st	Yes	Array of TableDetail objects	Destination table information

Table 5-310 TableDetail

Parameter	Mandatory	Туре	Description
schema_name	Yes	String	Schema name
table_name	Yes	String	Table name

## **Response Parameters**

Status code: 200

**Table 5-311** Response body parameters

Parameter	Туре	Description
check_table_n ame_result	CheckTableN ameResult object	Check results.

Table 5-312 CheckTableNameResult

Parameter	Туре	Description
database	String	Database name
restore_table_ list	Array of strings	Information about the source table in a restoration.

Parameter	Туре	Description
target_table_li st	Array of strings	Information about the destination table in a restoration.

## **Example Request**

```
POST https://{Endpoint}/v2/0536cdee2200d5912f7cc00b877980f1/snapshots/c719b1a7-c85c-4cb5-a721-7694908c2c11/table-restore-check

{
    "case_sensitive" : true,
    "database" : "postgres",
    "restore_table_list" : [
        {
            "schema_name" : "postgres",
            "table_name" : "public"
        }
    ],
    "target_table_list" : [
        {
            "schema_name" : "postgres",
            "table_name" : "postgres",
            "table_name" : "postgres",
            "table_name" : "public"
        }
    ]
}
```

## **Example Response**

#### Status code: 200

Succeeded in checking the name of the table to be restored.

```
{
  "check_table_name_result" : {
    "database" : "postgres",
    "restore_table_list" : null,
    "target_table_list" : null
}
```

#### **Status Code**

Status Code	Description
200	Succeeded in checking the name of the table to be restored.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
500	Internal server error.
503	Service unavailable.

## 5.3.17 Restoring a Table

## **Function**

This API is used to restore a table.

#### **URI**

POST /v1/{project\_id}/snapshots/{snapshot\_id}/table-restore

Table 5-313 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
snapshot_id	Yes	String	Snapshot ID

## **Request Parameters**

**Table 5-314** Request body parameters

Parameter	Mandatory	Туре	Description
case_sensitive	Yes	Boolean	Indicates whether the name is case sensitive.
database	Yes	String	Database name
restore_table_ list	Yes	Array of TableDetail objects	Source table information
target_table_li st	Yes	Array of TableDetail objects	Destination table information

**Table 5-315** TableDetail

Parameter	Mandatory	Туре	Description
schema_name	Yes	String	Schema name
table_name	Yes	String	Table name

## **Response Parameters**

Status code: 200

**Table 5-316** Response body parameters

Parameter	Туре	Description
job_id	String	Job ID

## **Example Request**

```
POST https://{Endpoint}/v2/0536cdee2200d5912f7cc00b877980f1/snapshots/c719b1a7-c85c-4cb5-a721-7694908c2c11/table-restore

{
    "case_sensitive": true,
    "database": "postgres",
    "restore_table_list": [ {
        "schema_name": "postgres",
         "table_name": "public"
    } ],
    "target_table_list": [ {
        "schema_name": "postgres",
        "table_name": "postgres",
        "table_name": "postgres",
        "table_name": "public"
    } ]
}
```

### **Example Response**

Status code: 200

The table is restored successfully.

```
{
    "job_id" : "2c9081c0894918c301894e503ef21b68"
}
```

#### **Status Code**

Status Code	Description
200	The table is restored successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
500	Internal server error.
503	The service was unavailable.

# **5.3.18 Obtaining Available Regions of a Cross-Region Snapshot**

#### **Function**

This API is used to obtain the available regions of a cross-region snapshot.

#### **URI**

GET /v1/{project\_id}/snapshots/cross-regions

**Table 5-317** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Table 5-318 Query parameters

Parameter	Mandatory	Туре	Description
offset	No	Integer	Pagination offset. The default value is <b>0</b> .
limit	No	Integer	Page size. The default value is <b>10</b> .

### **Request Parameters**

None

### **Response Parameters**

Status code: 200

**Table 5-319** Response body parameters

Parameter	Туре	Description
regions	Array of SnapshotReg ion objects	Region list
count	Integer	Total number

Table 5-320 SnapshotRegion

Parameter	Туре	Description
region_id	String	Region ID.

### **Example Request**

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/snapshots/cross-regions

## **Example Response**

Status code: 200

The available regions of the cross-region snapshot are obtained successfully.

```
{
    "regions" : [ {
        "region_id" : "az1.dc1"
    } ],
    "count" : 1
}
```

#### **Status Code**

Status Code	Description
200	The available regions of the cross-region snapshot are obtained successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
500	Internal server error.
503	The service was unavailable.

## 5.3.19 Configuring Cross-Region Backup

### **Function**

This API is used to configure cross-region backup.

#### **URI**

POST /v1/{project\_id}/snapshots/cross-region-policies

Table 5-321 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

**Table 5-322** Request body parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
destination_pr oject_id	Yes	String	Destination project ID
destination_re gion	Yes	String	Destination region
status	Yes	Boolean	Status
back_keep_da y	Yes	Integer	Retention days

## **Response Parameters**

None

## **Example Request**

```
POST https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/snapshots/cross-region-policies

{
    "cluster_id" : "4aed8622-e99c-4b60-bd35-1ccde7c26ad0",
    "destination_project_id" : "xxx",
    "destination_region" : "xxx",
    "status" : true,
    "back_keep_day" : 3
}
```

## **Example Response**

None

#### **Status Code**

Status Code	Description
200	Cross-region backup is configured successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
500	Internal server error.
503	The service was unavailable.

## 5.3.20 Querying All Cross-Region Snapshot Configurations

### **Function**

This API is used to query all cross-region snapshot configurations.

#### **URI**

GET /v1/{project\_id}/snapshots/cross-region-policies

Table 5-323 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

**Table 5-324** Query parameters

Parameter	Mandatory	Туре	Description
cluster_id	No	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
offset	No	Integer	Pagination offset.
limit	No	Integer	Number of records displayed on each page.

None

## **Response Parameters**

Status code: 200

**Table 5-325** Response body parameters

Parameter	Туре	Description
cross_region_c onfigs	Array of CrossRegionS napshotConfi g objects	Cross-region configuration information.
count	Integer	Total number

Table 5-326 CrossRegionSnapshotConfig

Parameter	Туре	Description	
cluster_id	String	Cluster ID	
cluster_name	String	Cluster name	
source_region	String	Source region	
source_project _id	String	Source project ID	
destination_re gion	String	Destination region	
destination_pr oject_id	String	Destination project ID	
status	Boolean	Status	
back_keep_da y	Integer	Backup data storage period	
total_size	Long	Total size	

### **Example Request**

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/snapshots/cross-region-policies

## **Example Response**

Status code: 200

The configurations of all cross-region snapshot are queried successfully.

```
{
  "cross_region_configs" : [ {
    "cluster_id" : "4aed8622-e99c-4b60-bd35-1ccde7c26ad0",
    "cluster_name" : "dwstest-821-100",
    "source_region" : null,
    "source_project_id" : null,
    "destination_region" : null,
    "destination_project_id" : null,
    "status" : null,
    "status" : null,
    "back_keep_day" : 3,
    "total_size" : null
} ],
    "count" : 1
}
```

#### **Status Code**

Status Code	Description
200	The configurations of all cross-region snapshot are queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
500	Internal server error.
503	The service was unavailable.

## **5.3.21 Deleting Cross-Region Backup Configurations**

### **Function**

This API is used to delete cross-region backup configurations.

#### URI

DELETE /v1/{project\_id}/snapshots/cross-region-policies

#### Table 5-327 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Table 5-328 Query parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

None

### **Response Parameters**

None

## **Example Request**

 $DELETE\ https://\{Endpoint\}/v1/0536cdee2200d5912f7cc00b877980f1/snapshots/cross-region-policies?cluster=4aed8622-e99c-4b60-bd35-1ccde7c26ad0$ 

### **Example Response**

None

#### **Status Code**

Status Code	Description
200	Cross-region backup configuration deleted successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
500	Internal server error.
503	The service was unavailable.

## 5.3.22 Copying a Snapshot

#### **Function**

This API is used to copy an automated snapshot.

#### **URI**

POST /v1.0/{project\_id}/snapshots/{snapshot\_id}/linked-copy

Table 5-329 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
snapshot_id	Yes	String	Snapshot ID

**Table 5-330** Request body parameters

Parameter	Mandatory	Туре	Description
backup_name	Yes	String	Snapshot name, which must be unique and start with a letter. It consists of 4 to 64 characters. The value is caseinsensitive and can contain letters, digits, hyphens (-), and underscores (_) only.
description	No	String	Snapshot description. If no value is specified, the description is empty. Enter a maximum of 256 characters. The following special characters are not allowed: ! <>'=&"

## **Response Parameters**

**Table 5-331** Parameters in the response body

Parameter	Туре	Description
snapshot_id	String	ID of the snapshot to be copied.

## **Example Request**

Replicate an automated snapshot named **test1**:

POST https:// $\{Endpoint\}$  /v1.0/89cd04f168b84af6be287f71730fdb4b/snapshots/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/linked-copy  $\{beauting the constant for the co$ 

```
"description": ""
```

## **Example Response**

Status code: 200

```
{
"snapshot_id":"52adf601-67f7-4639-bf71-061a61482869"
}
```

### **Status Code**

Status Code	Description
200	The snapshot is copied successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## **5.3.23 Querying the Cluster Snapshot List**

## **Function**

This API is used to query the cluster snapshot list.

#### URI

GET /v1.0/{project\_id}/clusters/{cluster\_id}/snapshots

Table 5-332 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.

**Table 5-333** Query parameters

Parameter	Mandatory	Туре	Description
sort_key	No	String	Collation columns. Each collation column must correspond to a collation rule.
			Optional columns: name, clusterName, and startTime
sort_dir	No	String	Collation rule      ASC     DESC
offset	No	Integer	Offset, which indicates the sequence number of the record from which the query starts.
limit	No	Integer	Number of records to be queried

None

## **Response Parameters**

Status code: 200

**Table 5-334** Response body parameters

Parameter	Туре	Description
snapshots	Array of Snapshots objects	List of snapshot objects
count	Integer	Total number of snapshot objects
project_id	String	Resource Sets ID.
cluster_id	String	Cluster ID

Table 5-335 Snapshots

Parameter	Туре	Description
id	String	Snapshot ID
name	String	Snapshot name
description	String	Snapshot description
started	String	Time when a snapshot starts to be created. Format: ISO8601: YYYY-MM-DDThh:mm:ssZ
updated	String	Time when the snapshot record is updated. The format is ISO8601: YYYY-MM-DDThh:mm:ssZ.
size	Double	Snapshot size, in GB
status	String	Snapshot status:
		• CREATING
		AVAILABLE
		UNAVAILABLE
		RESTORING
type	String	Snapshot type Where,
		MANUAL indicates a manual snapshot.
		AUTO indicates an automatic snapshot.
cluster_id	String	ID of the cluster for which the snapshot is created.
cluster_name	String	Name of the cluster for which the snapshot is created
backup_key	String	Key generated during backup
prior_backup_ key	String	Backup key of the previous snapshot used by the incremental backup. The value <b>FULL</b> indicates a full snapshot.
base_backup_ key	String	Backup key of a full snapshot
backup_devic e	String	Backup media
total_backup_ size	Long	Accumulated size of a snapshot, from the full backup to the incremental backup. Unit: KB
base_backup_ name	String	Name of a full snapshot
support_inpla ce_restore	Boolean	Whether data can be restored to the original cluster

Parameter	Туре	Description
fine_grained_ backup	Boolean	Whether the backup is a fine-grained backup
fine_grained_ backup_detail	FineGrainedS napshotDetai l	Fine-grained backup information
	object	
guest_agent_v ersion	String	GuestAgent version
cluster_status	String	Cluster status
		AVAILABLE
		UNAVAILABLE
		• FROZEN
bak_expected _start_time	String	Estimated snapshot start time
bak_keep_day	Integer	Backup retention days
bak_period	String	Cluster policy
db_user	String	Backup user
datastore	<b>DataStore</b> object	Database version
progress	String	Backup progress
backup_level	String	Backup level
		cluster
		• schema

 Table 5-336
 FineGrainedSnapshotDetail

Parameter	Туре	Description
database	String	Database backup
schema_list	Array of String	Backup schema set
table_list	Array of String	Backup table set

#### Table 5-337 DataStore

Parameter	Туре	Description
type	String	Database type
version	String	Database version

### **Example Request**

 $\label{lem:general:g$ 

#### **Example Response**

#### Status code: 200

The snapshot list is queried successfully.

```
"snapshots": [
  {
     "datastore": {
        "type": "dws",
        "version": "8.1.3.200"
      "description": "",
     "id": "02413539-6556-434c-a795-a44e9db7262d",
     "cluster_id": "1446b166-b73f-4096-b9bd-9a30afe3071f",
     "cluster_name": "ysj-1101-0917",
"name": "kz-001",
     "size": 206400,
     "status": "COMPLETED",
      "updated": "2022-11-01T02:15:26",
     "type":"AUTO",
"backup_key": "20221101_021217",
     "prior_backup_key": "FULL",
"base_backup_key": "20221101_021217",
     "backup_device": "OBS",
     "total_backup_size": 206400,
      "base_backup_name": "kz-001",
      "support_inplace_restore": true,
     "fine_grained_backup": false,
     "fine_grained_backup_detail": {},
"guest_agent_version": "8.2.0.1",
     "cluster status": "AVAILABLE",
     "bak_expected_start_time": "1667295060000",
      "bak_keep_day": 3,
     "bak_period": "0 31 1/8 ? * 2,3,4,5,6,7",
     "db_user": "dbadmin"
"project_id": "4cf650fd46704908aa071b4df2453e1e",
"cluster_id": "1446b166-b73f-4096-b9bd-9a30afe3071f",
"count": 1
```

#### **Status Code**

Status Code	Description
200	The snapshot list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## **5.3.24 Obtaining Roach Parameter Settings**

### **Function**

This API is used to obtain Roach parameter settings.

#### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/snapshots/roach-configs

**Table 5-338** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-339** Query parameters

Parameter	Mandatory	Туре	Description
offset	No	Integer	Pagination offset
limit	No	Integer	Number of records displayed on each page

None

## **Response Parameters**

Status code: 200

**Table 5-340** Response body parameters

Parameter	Туре	Description
roach_configs	Array of RoachConfig objects	List of Roach parameter settings
count	Integer	Total number

#### Table 5-341 RoachConfig

Parameter	Туре	Description	
key	String	Key	
value	String	Value	
type	String	Configuration type	

## **Example Request**

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/c719b1a7-c85c-4cb5-a721-7694908c2c11/snapshots/roach-configs

## **Example Response**

Status code: 200

Roach parameter settings obtained successfully.

```
{
  "roach_configs" : [ {
    "key" : "parallel-process",
    "value" : 20,
    "type" : "backup"
} ],
  "count" : 1
}
```

#### **Status Code**

Status Code	Description
200	Roach parameter settings obtained successfully.

Status Code	Description
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
500	Internal server error.
503	The service was unavailable.

## 5.3.25 Updating Roach Parameters of a Cluster Snapshot

## **Function**

This API is used to update Roach parameters of a cluster snapshot.

#### **URI**

PUT /v1/{project\_id}/clusters/{cluster\_id}/snapshots/roach-configs

Table 5-342 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

**Table 5-343** Request body parameters

Parameter	Mandatory	Туре	Description
roach_config	Yes	Array of RoachConfig objects	Roach configuration information

Table 5-344 RoachConfig

Parameter	Mandatory	Туре	Description
key	Yes	String	Key
value	Yes	String	Value
type	Yes	String	Configuration type

### **Response Parameters**

None

## **Example Request**

```
PUT https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/c719b1a7-c85c-4cb5-a721-7694908c2c11/snapshots/roach-configs

{
    "roach_config" : [ {
        "key" : "parallel-process",
        "value" : 30,
        "type" : "backup"
    } ]
}
```

## **Example Response**

None

#### **Status Code**

Status Code	Description
200	Roach parameters of the cluster snapshot updated successfully.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
500	Internal server error.
503	The service was unavailable.

## **5.3.26 Stopping Snapshot Creation**

#### **Function**

This API is used to stop a snapshot creation.

#### **URI**

POST /v1/{project\_id}/snapshots/{snapshot\_id}/stop

Table 5-345 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
snapshot_id	Yes	String	Snapshot ID.

#### **Table 5-346** Query parameters

Parameter	Mandatory	Туре	Description
enterprise_pro ject_id	No	String	Enterprise project ID

## **Request Parameters**

None

## **Response Parameters**

None

## **Example Request**

PUT https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/snapshots/11e93775-e2a6-4d09-96dd-b14c2bbffc97/stop

## **Example Response**

None

#### **Status Code**

Status Code	Description
200	Snapshot creation stopped successfully.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.

Status Code	Description
500	Internal server error.
503	The service was unavailable.

## 5.3.27 Obtaining the User Database

## **Function**

This API is used to obtain the user database.

#### URI

GET /v1/{project\_id}/clusters/{cluster\_id}/databases

Table 5-347 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-348** Query parameters

Parameter	Mandatory	Туре	Description
database	No	String	Database name
offset	No	Integer	Pagination offset
limit	No	Integer	Number of records displayed on each page

## **Request Parameters**

None

## **Response Parameters**

Status code: 200

**Table 5-349** Response body parameters

Parameter	Туре	Description
databases	Array of strings	List of database names
count	Integer	Total number

## **Example Request**

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/c719b1a7-c85c-4cb5-a721-7694908c2c11/databases

## **Example Response**

Status code: 200

User database obtained successfully.

```
{
  "databases" : [ "gaussdb postgres" ],
  "count" : 2
}
```

#### **Status Code**

Status Code	Description
200	User database obtained successfully.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
500	Internal server error.
503	The service was unavailable.

## 5.3.28 Obtaining the Schema of the User Database

#### **Function**

This API is used to obtain the schema of a user database.

#### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/databases/{database}/schemas

**Table 5-350** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
database	Yes	String	Database name.

**Table 5-351** Query parameters

Parameter	Mandatory	Туре	Description
offset	No	Integer	Pagination offset. The default value is <b>0</b> .
limit	No	Integer	Page size. The default value is <b>10</b> .
order_by	No	String	Sorting option.
order	No	String	Whether to sort results in ascending order (asc) or descending order (desc).
filters	No	String	Condition query filters.

None

## **Response Parameters**

Status code: 200

**Table 5-352** Response body parameters

Parameter	Туре	Description
schemas	Array of strings	Database schema list
count	Integer	Total number

## **Example Request**

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/c719b1a7-c85c-4cb5-a721-7694908c2c11/databases/gaussdb/schemas

### **Example Response**

#### Status code: 200

The user database schema is obtained successfully.

```
{
    "schemas" : [ "public" ],
    "count" : 1
}
```

#### **Status Code**

Status Code	Description
200	The user database schema is obtained.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
500	Internal server error.
503	The service was unavailable.

## 5.4 Event Management

## **5.4.1 Querying the Event List**

#### **Function**

This API is used to query events.

#### URI

GET /v2/{project\_id}/events

Table 5-353 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

**Table 5-354** Query parameters

Parameter	Mandatory	Туре	Description
offset	No	String	Current page. The default value is <b>1</b> , and the maximum value is <b>10000</b> .
limit	No	String	Number of displayed records. A maximum of 1000 pieces are supported.

# **Request Parameters**

None

# **Response Parameters**

**Table 5-355** Response body parameters

Parameter	Туре	Description
events	Array of EventRespon se objects	Event object list
count	Integer	Total events

**Table 5-356** EventResponse

Parameter	Туре	Description	
category	String	Event type	
description	String	Event description	
event_id	String	Event ID	
name	String	Event definition name	
display_name	String	Event display name	
name_space	String	Service	
severity	String	Event severity	
source_type	String	Event source type	
occur_time	Long	Time	
project_id	String	Resource Sets ID.	

Parameter	Туре	Description	
source_id	String	Event source ID	
source_name	String	Event source name	
status	Integer	Status	
subject	String	Event subject	
context	String	Event information	

https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/events

### **Example Response**

The event list is queried successfully.

```
"events": [ {
    "category": "management",
    "description": " Cluster %s deleted successfully."
    "name": "deleteClusterSuccess",
    "severity": "normal",
    "status": 2,
    "subject": "DWS event notification",
    "context": "Cluster test-ty-820-1006 deleted successfully."
    "event_id": "f63ccf96-e3e0-474a-835a-fd1a779f68bd",
    "display_name": "Cluster deleted successfully."
    "name_space": "dws",
    "source_type": "cluster",
    "occur_time": 1664331248330,
    "project_id": "4cf650fd46704908aa071b4df2453e1e",
    "source_id": "9defa0ce-b11c-47b2-abbc-5cad09ced772",
    "source_name": "test-ty-820-1006"
} ],
    "count": 1
```

#### **Status Code**

Status Code	Description
200	The event list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.4.2 Querying Event Configurations**

### **Function**

This API is used to query event configurations.

#### **URI**

GET /v2/{project\_id}/event-specs

#### Table 5-357 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

#### Table 5-358 Query parameters

Parameter	Mandatory	Туре	Description
spec_name	No	String	Event configuration name.
category	No	String	Event type
severity	No	String	Event severity
source_type	No	String	Event source type
tag	No	String	Tag
offset	No	String	Current page. The default value is <b>1</b> , and the maximum value is <b>10000</b> .
limit	No	String	Number of displayed records. A maximum of 1000 pieces are supported.

# **Request Parameters**

None

**Table 5-359** Parameters in the response body

Parameter	Туре	Description
count	Integer	Total number of event configurations.
event_specs	Array of EventSpecRes ponse objects	Event configuration list

Table 5-360 EventSpecResponse

Parameter	Туре	Description	
id	String	Event configuration ID	
name	String	Event configuration definition name	
display_name	String	Event configuration display name	
description	String	Event configuration description	
subject	String	Event	
category	String	Event type	
severity	String	Event severity	
source_type	String	Event source type	
name_space	String	Service	

### **Example Request**

https://{Endpoint}/v2/{project\_id}/event-specs

### **Example Response**

#### Status code: 200

The cluster query event is configured successfully.

```
{
    "event_specs" : [ {
        "id" : "fa6e1502-9d08-48c7-900c-26d3b5bd6078",
        "name" : "configureMRSExtDataSourcesSuccess",

"description": "Succeeded in configuring the MRS data source for the cluster %s."

"subject": "DWS event notification"
    "category" : "management",
    "severity" : "normal",

"display_name": "MRS data source configured successfully."
    "source_type" : "cluster",
    "name_space" : "dws"
} ].
```

```
"count" : 1
ເ
```

### **Status Code**

Status Code	Description
200	The event configuration list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.4.3 Querying Subscribed Events**

### **Function**

This API is used to query subscribed events.

#### **URI**

GET /v2/{project\_id}/event-subs

Table 5-361 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

**Table 5-362** Query parameters

Parameter	Mandatory	Туре	Description
offset	No	String	Current page. The default value is <b>1</b> , and the maximum value is <b>10000</b> .
limit	No	String	Number of displayed records. A maximum of 1000 pieces are supported.

### **Request Parameters**

None

### **Response Parameters**

**Table 5-363** Response body parameters

Parameter	Туре	Description
count	Integer	Total number of event subscriptions.
event_subscri ptions	Array of EventSubscri ptionRespons e objects	Event subscription list

Table 5-364 EventSubscriptionResponse

Parameter	Туре	Description
id	String	Subscription ID
name	String	Subscription name
source_type	String	Event source type
source_id	String	Event source ID
category	String	Event type
severity	String	Event severity
tag	String	Tag
enable	Integer	<ul><li>Whether to enable subscription</li><li>1: enable</li><li>0: disable</li></ul>
project_id	String	Resource Sets ID.
name_space	String	Service
notification_t arget	String	Address for the message notification topic
notification_t arget_name	String	Message notification topic name

Parameter	Туре	Description
notification_t arget_type	String	Message notification type
language	String	Language
time_zone	String	Time zone

https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/event-subs

### **Example Response**

#### Status code: 200

The cluster query event is configured successfully.

```
{
    "event_subscriptions" : [ {
        "id" : "4d62f33b-b9ee-41d3-b1bc-67e54b2239f9",
        "name" : "00",
        "category" : "",
        "severity" : "",
        "tag" : "",
        "enable" : 1,
        "language" : "zh-cn",
        "source_type" : "",
        "source_id" : "",
        "project_id" : "4cf650fd46704908aa071b4df2453e1e",
        "name_space" : "DWS",
        "notification_target" : "urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:CGS",
        "notification_target_name" : "CGS",
        "notification_target_name" : "CGS",
        "notification_target_type" : "SMN",
        "time_zone" : "GMT+08:00"
      } ],
      "count" : 1
}
```

### **Status Code**

Status Code	Description
200	The event subscription list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.4.4 Creating an Event Subscription

# **Function**

This API is used to add a subscribed event.

### URI

POST /v2/{project\_id}/event-subs

**Table 5-365** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

# **Request Parameters**

**Table 5-366** Request body parameters

Parameter	Mandatory	Туре	Description
name	Yes	String	Event subscription name
source_type	No	String	The following event source types are supported:  • cluster  • backup  • disaster-recovery
source_id	No	String	Event source ID
category	No	String	The following event types are supported:  • management  • monitor  • security  • system alarm  Enumerated value: Use commas (,) to separate multiple enumerated values.
severity	No	String	The event severity can be normal or warning.
tag	No	String	Tag

Parameter	Mandatory	Туре	Description
enable	No	Integer	Whether to enable subscription  1: enable  0: disable
notification_t arget	Yes	String	Message notification address
notification_t arget_name	Yes	String	Message notification topic name
notification_t arget_type	Yes	String	The message notification type can only be SMN.
time_zone	No	String	Time zone

**Table 5-367** Response body parameters

Parameter	Туре	Description
id	String	Subscription ID
name	String	Subscription name
source_type	String	Event source type
source_id	String	Event source ID
category	String	Event type
severity	String	Event severity
tag	String	Tag
enable	Integer	<ul><li>Whether to enable subscription</li><li>1: enable</li><li>0: disable</li></ul>
project_id	String	Resource Sets ID.
name_space	String	Service
notification_t arget	String	Address for the message notification topic
notification_t arget_name	String	Message notification topic

Parameter	Туре	Description
notification_t arget_type	String	Message notification type
language	String	Language
time_zone	String	Time zone

To enable the "normal" and "warning" event subscription named **zrf-test-66** and select the message topic **dws-test-nodelete** whose address is **urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete**:

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/event-subs

{
    "severity" : "normal,warning",
    "source_id" : "",
    "source_type" : "",
    "tag" : "",
    "category" : "",
    "enable" : 1,
    "name" : "zrf-test-66",
    "notification_target" : "urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
    "notification_target_name" : "dws-test-nodelete",
    "notification_target_type" : "SMN",
    "time_zone" : "GMT+08:00"
}
```

# **Example Response**

#### Status code: 200

```
{
    "id" : "41eb162b-cd3b-4c66-88d0-0c2c17fdfc2b",
    "name" : "zrf-test-66",
    "category" : "",
    "severity" : "normal,warning",
    "tag" : "",
    "enable" : 1,
    "language" : "zh-cn",
    "source_type" : "",
    "source_id" : "",
    "project_id" : "4cf650fd46704908aa071b4df2453e1e",
    "name_space" : "DWS",
    "notification_target" : "urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
    "notification_target_name" : "dws-test-nodelete",
    "notification_target_type" : "SMN",
    "time_zone" : "GMT+08:00"
}
```

#### **Status Code**

Status Code	Description
200	The event subscription is created successfully.

Status Code	Description
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.4.5 Updating a Subscribed Event

### **Function**

This API is used to update a subscribed event.

#### **URI**

PUT /v2/{project\_id}/event-subs/{event\_sub\_id}

Table 5-368 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
event_sub_id	Yes	String	Event subscription ID

# **Request Parameters**

**Table 5-369** Request body parameters

Parameter	Mandatory	Туре	Description
name	Yes	String	Event subscription name
source_type	No	String	The following event source types are supported:      cluster     backup     disaster-recovery

Parameter	Mandatory	Туре	Description
source_id	No	String	Event source ID
category	No	String	The following event types are supported:
			management
			monitor
			security
			system alarm
			Enumerated value: Use commas (,) to separate multiple enumerated values.
severity	No	String	The event severity can be normal or warning.
tag	No	String	Tag
enable	No	Integer	Whether to enable subscription  1: enable  0: disable
notification_t arget	Yes	String	Message notification address
notification_t arget_name	Yes	String	Message notification topic
notification_t arget_type	Yes	String	The message notification type can only be SMN.

**Table 5-370** Response body parameters

Parameter	Туре	Description
id	String	Subscription ID
name	String	Subscription name
source_type	String	Event source type
source_id	String	Event source ID
category	String	Event type
severity	String	Event severity

Parameter	Туре	Description
tag	String	Tag
enable	Integer	<ul><li>Whether to enable subscription</li><li>1: enable</li><li>0: disable</li></ul>
project_id	String	Resource Sets ID.
name_space	String	Service
notification_t arget	String	Address for the message notification topic
notification_t arget_name	String	Message notification topic
notification_t arget_type	String	Message notification type
language	String	Language
time_zone	String	Time zone

Update the **zrf-test-66** event subscription. Change the event type to **normal** and **warning**, and change the address of the SMN message topic **dws-test-nodelete** to **urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete**:

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/event-subs/41eb162b-cd3b-4c66-88d0-0c2c17fdfc2b

{
    "severity" : "normal,warning",
    "source_id" : "",
    "source_type" : "",
    "tag" : "",
    "category" : "",
    "enable" : 1,
    "name" : "zrf-test-66",
    "notification_target" : "urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
    "notification_target_name" : "dws-test-nodelete",
    "notification_target_type" : "SMN"
}
```

# **Example Response**

```
{
    "id" : "41eb162b-cd3b-4c66-88d0-0c2c17fdfc2b",
    "name" : "zrf-test-66",
    "category" : "",
    "severity" : "normal,warning",
    "tag" : "",
    "enable" : 1,
    "language" : "zh-cn",
```

```
"source_type": "",

"source_id": "",

"project_id": "4cf650fd46704908aa071b4df2453e1e",

"name_space": "DWS",

"notification_target": "urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",

"notification_target_name": "dws-test-nodelete",

"notification_target_type": "SMN",

"time_zone": "GMT+08:00"
```

#### **Status Code**

Status Code	Description
200	Event subscription updated successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
501	The service was unavailable.

# 5.4.6 Deleting a Subscribed Event

### **Function**

This API is used to delete a subscribed event.

#### **URI**

DELETE /v2/{project\_id}/event-subs/{event\_sub\_id}

Table 5-371 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
event_sub_id	Yes	String	Event subscription ID

### **Request Parameters**

None

Status code: 200

**Table 5-372** Response body parameter

Parameter	Туре	Description
id	String	Subscription ID
name	String	Subscription name
source_type	String	Event source type
source_id	String	Event source ID
category	String	Event type
severity	String	Event severity
tag	String	Tag
enable	Integer	<ul><li>Whether to enable subscription</li><li>1: enable</li><li>0: disable</li></ul>
project_id	String	Resource Sets ID.
name_space	String	Service
notification_t arget	String	Address for the message notification topic
notification_t arget_name	String	Message notification topic
notification_t arget_type	String	Message notification type
language	String	Language
time_zone	String	Time zone

# **Example Request**

 $https://\{Endpoint\}/v2/4cf650fd46704908aa071b4df2453e1e/event-subs/41eb162bcd3b-4c66-88d0-0c2c17fdfc2b$ 

# **Example Response**

```
{
    "id" : "41eb162b-cd3b-4c66-88d0-0c2c17fdfc2b",
    "name" : "zrf-test-66",
    "category" : "",
    "severity" : "normal,warning",
    "tag" : "",
```

```
"enable": 1,
"language": "zh-cn",
"source_type": "",
"source_id": "",
"project_id": "4cf650fd46704908aa071b4df2453e1e",
"name_space": "DWS",
"notification_target": "urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
"notification_target_name": "dws-test-nodelete",
"notification_target_type": "SMN",
"time_zone": "GMT+08:00"
}
```

#### **Status Code**

Status Code	Description
200	The event subscription is deleted successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.5 Data Source

# 5.5.1 Querying a Data Source

### **Function**

This API is used to query a data source.

### URI

GET /v1.0/{project\_id}/clusters/{cluster\_id}/ext-data-sources

Table 5-373 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

# **Request Parameters**

None

# **Response Parameters**

**Table 5-374** Response body parameters

Parameter	Туре	Description
data_sources	Array of ExtDataSourc e objects	Data source list
project_id	String	Resource Sets ID.
cluster_id	String	Cluster ID
type	String	<ul><li>Data source type, which can be:</li><li>OBS as the data source</li><li>MRS Data Source</li></ul>
count	Integer	Total number

Table 5-375 ExtDataSource

Parameter	Туре	Description
id	String	Data source configuration ID
name	String	Data source name.
type	String	Data source type
connect_info	String	Connected database
user_name	String	MRS username or OBS agency name
version	String	Data source version
configure_stat us	String	Configuration status
status	String	Running status

Parameter	Туре	Description
data_source_i d	String	Data source ID
created	String	Data source creation time
updated	String	Data source update time
data_source_u pdated	String	Data source update time
extend_proper ties	Map <string,st ring&gt;</string,st 	Extended information
description	String	Description
fail_reason	String	Cause of failure

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### **Example Response**

### **Status Code**

Status Code	Description
200	The data source is queried successfully.
400	Request error.
401	Authentication failed.

Status Code	Description
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.5.2 Creating a Data Source

# **Function**

This API is used to create a data source.

#### URI

POST /v1.0/{project\_id}/clusters/{cluster\_id}/ext-data-sources

Table 5-376 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

### **Request Parameters**

**Table 5-377** Request body parameters

Parameter	Mandatory	Туре	Description
data_source_i d	No	String	Data source ID This parameter is mandatory when the data source is MRS.
type	Yes	String	Data source type. The options are as follows:  OBS  MRS

Parameter	Mandatory	Туре	Description
data_source_n ame	Yes	String	Data source name. The value can contain 1 to 64 characters, including uppercase letters, lowercase letters, numbers, and underscores (_).
user_name	Yes	String	Username The value can contain 3 to 20 characters, including uppercase letters, lowercase letters, numbers, and underscores (_).
			If the data source is OBS, set this parameter to the OBS agency name.
user_pwd	No	String	Password This parameter is mandatory when the data source is MRS.
description	No	String	Description. A maximum of 256 characters, excluding <>'=&
reboot	No	Boolean	Whether to restart
connect_info	No	String	Connected database This parameter is mandatory when the data source is OBS.

**Table 5-378** Parameters in the response body

Parameter	Туре	Description
id	String	Data source configuration ID
job_id	String	ID of the task for creating a data source.

# **Example Request**

Create an OBS data source named **test154** and set the username to **DWSAccessOBS**, and connect it to GaussDB:

POST https://{Endpoint} \psi.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/ext-data-sources  $\{$ 

"type": "OBS",

"data\_source\_name": "test154",

```
"user_name": "DWSAccessOBS",
"connect_info": "gaussdb",
"description": "xxx"
}
```

### **Example Response**

#### Status code: 200

```
{
    "id" : "d303f19c-fbd1-4716-ae04-07d1ff358f22",
    "job_id" : "2c9081c88418ed420184197c8bc80001"
}
```

### **Status Code**

Status Code	Description
200	The data source is successfully created.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.5.3 Updating a Data Source

### **Function**

This API is used to update a data source.

#### URI

PUT /v1.0/{project\_id}/clusters/{cluster\_id}/ext-data-sources/{ext\_data\_source\_id}

Table 5-379 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

Parameter	Mandatory	Туре	Description
ext_data_sour ce_id	Yes	String	Data source configuration ID

### **Request Parameters**

**Table 5-380** Request body parameters

Parameter	Mandatory	Туре	Description
reconfigure	Yes	<b>ReConfigure</b> object	Configuration information

**Table 5-381** ReConfigure

Parameter	Mandatory	Туре	Description
reboot	No	Boolean	Whether to restart
agency	No	String	Agency name

## **Response Parameters**

**Table 5-382** Response parameters

Parameter	Туре	Description
job_id	String	ID of the task for updating a data source.

# **Example Request**

Change the agency name to **DWSAccessOBS** for the data source whose ID is **d303f19c-fbd1-4716-ae04-07d1ff358f22**:

```
PUT https://{Endpoint} /v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/ext-data-sources/d303f19c-fbd1-4716-ae04-07d1ff358f22 {
    "reconfigure":{
        "reboot": false,
        "agency": "DWSAccessOBS"
    }
}
```

# **Example Response**

```
{
    "job_id" : "2c9081c88418ed420184197c8bc80001"
}
```

#### **Status Code**

Status Code	Description
200	The request for updating the data source is sent.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.5.4 Deleting a Data Source

### **Function**

This API is used to delete a data source.

#### **URI**

DELETE /v1.0/{project\_id}/clusters/{cluster\_id}/ext-data-sources/{ext\_data\_source\_id}

**Table 5-383** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID For details about how to obtain the ID, see Obtaining the Cluster ID.
ext_data_sour ce_id	Yes	String	Data source configuration ID

# **Request Parameters**

None

Table 5-384 Response parameters

Parameter	Туре	Description
job_id	String	ID of the task for updating a data source.

# **Example Request**

DELETE https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/ext-data-sources/d303f19c-fbd1-4716-ae04-07d1ff358f22

# **Example Response**

Status code: 200

```
{
    "job_id" : "2c9081c88418ed420184197c8bc80001"
}
```

### **Status Code**

Status Code	Description
200	The data source is deleted.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.6 Audit logs

# 5.6.1 Querying Logs

### **Function**

This API is used to query audit logs.

#### **URI**

GET /v1.0/{project\_id}/clusters/{cluster\_id}/audit-log-records

Table 5-385 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

# **Request Parameters**

None

# **Response Parameters**

Table 5-386 Response body parameters

Parameter	Туре	Description
records	Array of AuditDumpR ecord objects	Audit log list
cluster_id	String	Cluster ID
count	Integer	Total number

Table 5-387 AuditDumpRecord

Parameter	Туре	Description
cluster_id	String	Cluster ID
exector_time	String	Execution time
begin_time	String	Start time
end_time	String	End time
bucket_name	String	Bucket name
location_prefi x	String	OBS path

Parameter	Туре	Description
result	String	Result status
failed_reason	String	Cause of failure

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### **Example Response**

```
{
    "records": [
        {
             "result": "RUNNING",
            "cluster_id": "a07cb2f7-b17e-4d95-923b-a33d0c884d37",
            "exector_time": "2022-10-31T09:11:31",
            "begin_time": "2022-10-31T09:09:55",
            "end_time": "2022-10-31T09:19:55",
            "bucket_name": "dws-demo",
            "location_prefix": "test"
        }
        ],
        "count": 1,
        "cluster_id": "a07cb2f7-b17e-4d95-923b-a33d0c884d37"
}
```

#### **Status Code**

Status Code	Description
200	The audit log records are queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	The requested resource was not found.
500	Internal server error.
503	The service was unavailable.

# 5.7 Resource Management

# 5.7.1 Setting the Resource Management Switch

#### **Function**

This API is used to set the resource management switch.

#### URI

POST /v2/{project\_id}/clusters/{cluster\_id}/workload

**Table 5-388** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

# **Request Parameters**

**Table 5-389** Request body parameters

Parameter	Mandatory	Туре	Description
workload_stat us		WorkloadSta tus object	Resource management status

Table 5-390 WorkloadStatus

Parameter	Mandatory	Туре	Description
workload_swit ch	Yes	String	Switch. The value can be <b>on</b> or <b>off</b> .
max_concurre ncy_num	No	String	Maximum concurrency. The value is an integer ranging from -1 to 2147483647. The value -1/0 indicates that the parameter is not limited.

# **Response Parameters**

**Table 5-391** Parameters in the response body

Parameter	Туре	Description
workload_res_cod e	Integer	Status code
workload_res_str	String	Status description.

Enable resource management and set the maximum concurrency to 5.

```
POST https://{Endpoint} /v2/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/workload {
    "workload_status":{
        "workload_switch":"on",
        "max_concurrency_num":"5"
    }
}
```

### **Example Response**

Status code: 200

```
Resource management is set successfully.

{
    "workload_res_code": 0,
    "workload_res_str": "Success to modify the resource manager config."
}
```

#### **Status Code**

Status Code	Description
200	Resource management is set successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.7.2 Querying the Resource Management Status**

### **Function**

This API is used to query the resource management status.

#### URI

GET /v2/{project\_id}/clusters/{cluster\_id}/workload

Table 5-392 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.

### **Request Parameters**

None

### **Response Parameters**

Status code: 200

**Table 5-393** Response body parameters

Parameter	Туре	Description
workload_stat us	WorkloadSta tus object	Resource management status
workload_res_ code	Integer	Status code
workload_res_ str	String	Status description

Table 5-394 WorkloadStatus

Parameter	Туре	Description
workload_swit ch	String	Switch of resource management
max_concurre ncy_num	String	Maximum concurrency

# **Example Request**

GET https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload

### **Example Response**

```
{
  "workload_res_code": 0,
  "workload_res_str": "Success get workload manager status",
  "workload_status": {
     "workload_switch": "on",
     "max_concurrency_num": 60
  }
}
```

### **Status Code**

Status Code	Description
200	Succeeded in querying the resource management status.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.7.3 Querying Resource Statistics**

### **Function**

This API is used to query resource statistics.

#### URI

GET /v1/{project\_id}/resource-statistics

#### Table 5-395 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Table 5-396 Query parameters

Parameter	Mandatory	Туре	Description
namespace	No	String	Namespace

### **Request Parameters**

None

# **Response Parameters**

Status code: 200

**Table 5-397** Response body parameters

Parameter	Туре	Description
cluster_statisti cs	StatusStatisti cs object	Cluster resource statistics.
node_statistic s	StatusStatisti cs object	Node resource statistics.

Table 5-398 StatusStatistics

Parameter	Туре	Description
active	Long	Active resources
total	Long	Total resources

### **Example Request**

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/resource-statistics

### **Example Response**

Status code: 200

Resource statistics queried successfully.

```
{
    "cluster_statistics" : {
        "active" : 2,
        "total" : 2
    },
    "node_statistics" : {
        "active" : 6,
        "total" : 36
    }
}
```

#### **Status Code**

Status Code	Description
200	Resource statistics queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
500	Internal server error.
503	Service unavailable.

# 5.7.4 Creating a Resource Pool

### **Function**

This API is used to create a resource pool.

#### **URI**

PUT /v2/{project\_id}/clusters/{cluster\_id}/workload/queues

Table 5-399 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.

### **Request Parameters**

**Table 5-400** Request body parameters

Parameter	Mandatory	Туре	Description
workload_que ue	Yes	WorkloadQu eue object	Resource pool objects

Table 5-401 WorkloadQueue

Parameter	Mandatory	Туре	Description
workload_que ue_name	Yes	String	Resource pool name The value must start with a lowercase letter and contain 3 to 28 characters, including only lowercase letters, numbers, and underscores (_).
logical_cluster _name	No	String	Name of a logical cluster
workload_res ource_item_lis t	Yes	Array of WorkloadRes ource objects	Resource configuration queue

Table 5-402 WorkloadResource

Parameter	Mandatory	Туре	Description
resource_nam	Yes	String	Resource name
е			• <b>memory</b> : memory resource (%)
			• <b>Tablespace</b> : storage resource (MB)
			activestatements: query concurrency
			• cpu_limit: dedicated limit
			• cpu_share: CPU share
			When adding a resource pool, you need to set all resource types. cpu_limit is supported only by clusters later than 8.1.3.

Parameter	Mandatory	Туре	Description
resource_valu	Yes	Integer	Resource attribute value
е			The value of memory ranges from 0 to 100. The value 0 indicates that the memory is not controlled.
			The value of tablespace ranges from -1 to 2147483647, where -1 indicates no limit. Set this parameter based on the actual storage resources.
			• The value of activestatements ranges from -1 to 2147483647, where -1/0 indicates no limit.
			The value of cpu_limit ranges from 1 to 99. If cpu_limit is set to 0, there is no restriction.
			The value of cpu_share ranges from 1 to 99. If cpu_share is not specified, the default value 20 is used.
			If cpu_limit and cpu_share are both set, cpu_limit prevails.

**Table 5-403** Response body parameters

Parameter	Туре	Description
workload_res_cod e	Integer	Status code
workload_res_str	String	Status description.

# **Example Request**

Add resource pool **test11**. Set the shared quota to **12**%, memory resource to **0** (unlimited), storage resource to **-1** (unlimited), and query concurrency to **10**.

PUT https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/queues

```
{
  "workload_queue": {
    "workload_queue_name": "test11",
    "workload_resource_item_list": [
    {
        "resource_name": "memory",
        "resource_value": "0"
    },
    {
        "resource_name": "tablespace",
        "resource_value": "-1"
    },
    {
        "resource_name": "activestatements",
        "resource_value": "10"
    },
    {
        "resource_name": "cpu_limit",
        "resource_value": 0
    },
    {
        "resource_value": 12
    }
    ],
    "logical_cluster_name": ""
}
```

### **Example Response**

#### Status code: 200

The resource pool is added successfully.

```
{
    "workload_res_code" : 0,
    "workload_res_str" : "Success to create the resource pool."
}
```

#### **Status Code**

Status Code	Description
200	The resource pool is added successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.7.5 Deleting a Resource Pool

### **Function**

This API is used to delete a resource pool.

#### **URI**

DELETE /v2/{project\_id}/clusters/{cluster\_id}/workload/queues

### Table 5-404 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

#### Table 5-405 Query parameters

Parameter	Mandatory	Туре	Description
logical_cluster _name	No	String	Name of a logical cluster
workload_que ue_name	Yes	String	Resource pool name

### **Request Parameters**

None

# **Response Parameters**

Table 5-406 Parameters in the response body

Parameter	Туре	Description
workload_res_cod e	Integer	Status code
workload_res_str	String	Status description.

### **Example Request**

 $DELETE\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/workload/queues?logical\_cluster\_name=lc\_test\&workload\_queue\_name=queue1$ 

# **Example Response**

Status code: 200

The resource pool is deleted successfully.

```
{
  "workload_res_code": 0,
  "workload_res_str": "Resource pool deleted successfully."
}
```

#### **Status Code**

Status Code	Description	
200	The resource pool is deleted successfully.	
400	Request error.	
401	Authentication failed.	
403	You do not have required permissions.	
404	No resources found.	
500	Internal server error.	
503	The service was unavailable.	

# 5.7.6 Querying the Resource Pool List

### **Function**

This API is used to query the resource pool list.

### **URI**

GET /v2/{project\_id}/clusters/{cluster\_id}/workload/queues

#### Table 5-407 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
logical_cluster _name	No	String	Logical cluster name. This field is mandatory in logical cluster mode.

None

### **Response Parameters**

Status code: 200

Table 5-408 Response body parameters

Parameter	Туре	Description
workload_que ue_name_list	Array of strings	Resource pool name
workload_res_ code	Integer	Response code. The value <b>0</b> indicates success.
workload_res_ str	String	Response description

### **Example Request**

 $\label{lem:general} $$\operatorname{GET}$ $$ $\operatorname{SFF}/{\mathbb{Z}}_{0,0}^{1730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/queues} $$$ 

# **Example Response**

```
{
  "workload_res_code": 0,
  "workload_res_str": "Success get workload manager queue name list",
  "workload_queue_name_list": [
     "test1"
  ]
}
```

### **Status Code**

Status Code	Description
200	The resource pool list is queried successfully.

Status Code	Description
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.7.7 Obtaining Resource Pool Details**

# **Function**

This API is used to obtain detailed information about a resource pool.

### **URI**

GET /v2/{project\_id}/clusters/{cluster\_id}/workload/queues/{queue\_name}

Table 5-409 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
queue_name	Yes	String	Resource pool name

**Table 5-410** Query parameters

Parameter	Mandatory	Туре	Description
logical_cluster _name	No	String	Logical cluster name. In non- logical cluster mode, leave this parameter blank. In logical cluster mode, it is the logical cluster name.

None

# **Response Parameters**

**Table 5-411** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Status code
workload_res_ str	String	Result description
workload_que ue	WorkloadQu eueltem object	Resource pool details.

 Table 5-412
 WorkloadQueueItem

Parameter	Туре	Description
queue_name	String	Resource pool name
logical_cluster _name	String	Name of the logical cluster
short_query_o ptimize	String	Specifies whether to enable short query acceleration for the resource pool.
short_query_c oncurrency_n um	Integer	Number of concurrent short queries in the resource pool.
resource_item _list	Array of WorkloadRes ourceItem objects	Resource configuration queue

Table 5-413 WorkloadResourceItem

Parameter	Туре	Description
resource_nam e	String	Resource name
resource_valu e	Integer	Resource attribute value

Parameter	Туре	Description
value_unit	String	Resource attribute unit
resource_desc ription	String	Additional resource description

# **Example Request**

 $\label{lem:general} $$\operatorname{GET}$ $$ \frac{1}{2m^2} - \frac{1730fdb4b}{clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/queues/resource1} $$$ 

# **Example Response**

#### Status code: 200

The resource pool details are obtained successfully.

```
{
  "workload_res_code": 0,
  "workload_res_str": "Resource pool information obtained successfully.",
  "workload_queue" : {
    "queue_name" : "resource1",
    "logical_cluster_name" : "",
    "short_query_optimize" : "t",
    "short_query_concurrency_num" : -1,
    "resource_item_list" : [ {
        "resource_name" : "cpu",
        "resource_value" : 1,
        "value_unit" : null,
        "resource_description" : null
    } ]
}
```

#### **Status Code**

Status Code	Description
200	The resource pool details are obtained successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.8 Updating Configuration Information of a Resource Pool

### **Function**

This API is used to update the resource configuration information of a resource pool.

### **URI**

PUT /v2/{project\_id}/clusters/{cluster\_id}/workload/queues/{queue\_name}/resources

Table 5-414 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
queue_name	Yes	String	Resource pool name

# **Request Parameters**

**Table 5-415** Request body parameters

Parameter	Mandatory	Туре	Description
workload_que ue	Yes	WorkloadQu eueInfo object	Resource pool

Table 5-416 WorkloadQueueInfo

Parameter	Mandatory	Туре	Description
workload_que ue_name	Yes	String	Resource pool name
logical_cluster _name	No	String	Name of the logical cluster
resource_item _list	Yes	Array of WorkloadRes ourceltem objects	Resource configuration queue

Table 5-417 WorkloadResourceItem

Parameter	Mandatory	Туре	Description
resource_nam e	Yes	String	Resource name
resource_valu e	Yes	Integer	Resource attribute value
value_unit	No	String	Resource attribute unit
resource_desc ription	No	String	Additional resource description

# **Response Parameters**

Status code: 200

**Table 5-418** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Response code
workload_res_ str	String	Response message

# **Example Request**

```
PUT https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/queues/{queue_name}/resources

{

"workload_queue_name": "test11",
    "resource_item_list": [ {
        "resource_name": "memory",
        "resource_value": "0"
        }, {
        "resource_name": "tablespace",
        "resource_value": "-1"
        }, {
        "resource_name": "activestatements",
        "resource_value": "10"
        }, {
        "resource_name": "cpu_limit",
        "resource_value": 0
        }, {
        "resource_value": 12
        }],
        "logical_cluster_name": ""
    }
}
```

### **Example Response**

### Status code: 200

Resource pool resource configuration information updated successfully.

```
{
    "workload_res_code" : 0,
    "workload_res_str" : "Resource pool modified successfully."
}
```

### **Status Code**

Status Code	Description
200	Resource pool resource configuration information updated successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.9 Querying All Plans Associated with a Queue

### **Function**

This API is used to query all plans associated with a queue.

### **URI**

GET /v2/{project\_id}/clusters/{cluster\_id}/workload/queues/{queue\_name}/plans

Table 5-419 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.
queue_name	Yes	String	Resource pool name

None

# **Response Parameters**

**Table 5-420** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Status code
workload_res_ str	String	Result description
plan_list	Array of WorkloadPla nInfo objects	Resource pool name
count	Integer	Total number of records.

Table 5-421 WorkloadPlanInfo

Parameter	Туре	Description
status	String	Plan Status
project_id	String	Resource Sets ID.
cluster_id	String	Cluster ID
plan_id	String	Plan ID
plan_name	String	Plan name
current_stage	String	Current plan stage
logical_cluster _name	String	Name of the logical cluster
stage_list	Array of PlanStage objects	List of plan stages

Table 5-422 PlanStage

Parameter	Туре	Description
month	String	Month of the plan

Parameter	Туре	Description
day	String	Date of the plan
plan_id	String	Plan ID
stage_id	String	Plan stage ID
stage_name	String	Plan stage name
start_time	String	Plan start time
end_time	String	Plan end time
next_valid_ti me	String	Next validation time
queue_list	Array of QueueResour celtem objects	Resource queue list

### Table 5-423 QueueResourceItem

Parameter	Туре	Description
queue_name	String	Resource pool name
queue_resour ces	Array of WorkloadRes ourceItem objects	Resource configuration queue

Table 5-424 WorkloadResourceItem

Parameter	Туре	Description
resource_nam e	String	Resource name
resource_valu e	Integer	Resource attribute value
value_unit	String	Resource attribute unit
resource_desc ription	String	Additional resource description

# **Example Request**

 $\label{lem:general-g$ 

### **Example Response**

#### Status code: 200

All plans associated with a resource pool are queried successfully.

```
{
  "plan_list" : [ {
    "status" : 0,
    "cluster_id" : "862201cd-f822-4dbc-ae3b-c7b9d080eea6",
    "project_id" : "0536cdee2200d5912f7cc00b877980f1",
    "plan_id" : "dde42d0c-38f7-4592-841d-5a16c5512408",
    "plan_name" : "plan1",
    "current_stage" : "",
    "logical_cluster_name" : "",
    "stage_list" : null
} ],
    "count" : 1
}
```

### **Status Code**

Status Code	Description
200	All plans associated with a resource pool are queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.10 Adding an Exception Rule

### **Function**

This API adds an exception rule and is only compatible with clusters of version 8.2.0 or later. It is not supported by clusters of GaussDB(DWS) 3.0. The maximum bandwidth of a single DN exception rule is supported only by cluster 8.2.1 and later versions.

#### URI

POST /v1/{project\_id}/clusters/{cluster\_id}/workload/rules

**Table 5-425** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-426** Request body parameters

Parameter	Mandatory	Туре	Description
rule_name	Yes	String	Exception rule name
except_rules	Yes	Array of WorkloadRul eltem objects	Exception rule threshold

**Table 5-427** WorkloadRuleItem

Parameter	Mandatory	Туре	Description
rule_key	Yes	String	Type of the exception rule threshold
			Enumerated values:
			• blocktime
			• elapsedtime
			• allcputime
			• cpuskewpercent
			• cpuavgpercent
			• spillsize
			bandwidth
rule_value	Yes	String	Range of the exception rule threshold

# **Response Parameters**

**Table 5-428** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Response code
workload_res_ str	String	Response message

### **Example Request**

```
POST https://{Endpoint}/v1/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/rules

{
    "rule_name" : "rule_t1",
    "except_rules" : [ {
        "rule_key" : "elapsedtime",
        "rule_value" : "1200"
        }, {
        "rule_key" : "allcputime",
        "rule_value" : "2000"
        }, {
        "rule_key" : "action",
        "rule_key" : "abort"
      } ]
}
```

# **Example Response**

#### Status code: 200

The exception rule is added successfully.

```
{
    "workload_res_code" : 0,
    "workload_res_str" : null
}
```

### **Status Code**

Status Code	Description
200	The exception rule is added successfully.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.7.11 Modifying an Exception Rule

### **Function**

This API modifies an exception rule and is only compatible with clusters of version 8.2.0 or later. It is not supported by clusters of GaussDB(DWS) 3.0. The maximum bandwidth of a single DN exception rule is supported only by cluster 8.2.1 and later versions.

#### URI

PUT /v1/{project\_id}/clusters/{cluster\_id}/workload/rules/{rule\_name}

Table 5-429 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
rule_name	Yes	String	Exception rule name.

# **Request Parameters**

**Table 5-430** Request body parameters

Parameter	Mandatory	Туре	Description
rule_name	Yes	String	Exception rule name
except_rules	Yes	Array of WorkloadRul eltem objects	Exception rule threshold

Table 5-431 WorkloadRuleItem

Parameter	Mandatory	Туре	Description
rule_key	Yes	String	Type of the exception rule threshold
			Enumerated values:
			• blocktime
			elapsedtime
			allcputime
			• cpuskewpercent
			• cpuavgpercent
			• spillsize
			bandwidth
rule_value	Yes	String	Range of the exception rule threshold

# **Response Parameters**

Status code: 200

Table 5-432 Response body parameters

	•	
Parameter	Туре	Description
workload_res_ code	Integer	Response code
workload_res_ str	String	Response message

# **Example Request**

```
PUT https://{Endpoint}/v1/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/rules/rule_01

{
    "rule_name" : "rule_t1",
    "except_rules" : [ {
        "rule_key" : "elapsedtime",
        "rule_value" : "1200"
        }, {
        "rule_key" : "allcputime",
        "rule_value" : "2000"
        }, {
        "rule_key" : "action",
        "rule_value" : "abort"
        }
    }
```

### **Example Response**

### Status code: 200

The exception rule is modified successfully.

```
{
  "workload_res_code" : 0,
  "workload_res_str" : null
}
```

### **Status Code**

Status Code	Description
200	The exception rule is modified successfully.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.7.12 Deleting an Exception Rule

### **Function**

This API deletes an exception rule and is only compatible with clusters of version 8.2.0 or later. It is not supported by clusters of GaussDB(DWS) 3.0.

#### URI

DELETE /v1/{project\_id}/clusters/{cluster\_id}/workload/rules/{rule\_name}

Table 5-433 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.
rule_name	Yes	String	Exception rule name.

None

# **Response Parameters**

Status code: 200

Table 5-434 Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Response code
workload_res_ str	String	Response message

# **Example Request**

 $\label{lem:decomposition} \begin{tabular}{l} DELETE & thttps://{Endpoint}/v1/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eba996-13f8b44994c1/workload/rules/rule\_01 \\ \end{tabular}$ 

# **Example Response**

Status code: 200

The exception rule is deleted successfully.

```
{
    "workload_res_code" : 0,
    "workload_res_str" : null
```

### **Status Code**

Status Code	Description
200	The exception rule is deleted successfully.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.7.13 Querying the List of Exception Rules for Resource Management

### **Function**

Querying the List of Exception Rules for Resource Management This API is only compatible with clusters of version 8.2.0 or later. It is not supported by clusters of GaussDB(DWS) 3.0.

#### URI

GET /v1/{project\_id}/clusters/{cluster\_id}/workload/rules

#### Table 5-435 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

#### **Table 5-436** Query parameters

Parameter	Mandatory	Туре	Description
queue_name	No	String	Queue name
rule_name	No	String	Exception rule name
limit	No	Integer	Number of records to be queried
offset	No	String	Offset

### **Request Parameters**

None

### **Response Parameters**

**Table 5-437** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Status code
workload_res_ str	String	Result description
items	Array of WorkloadRul eInfo objects	Exception rules
count	Integer	Total number

### Table 5-438 WorkloadRuleInfo

Parameter	Туре	Description	
name	String	Exception rule name	
action	String	Action	
queues	Array of strings	Bound resource pool	
except_rules	ExceptRuleIt em object	User-defined exception rule items	

Table 5-439 ExceptRuleItem

Parameter	Туре	Description
blocktime	String	Block time
elapsedtime	String	Execution time
allcputime	String	Total CPU time on all DNs
cpuskewperce nt	String	Total CPU time skew rate on all DNs
cpuavgpercen t	String	Average CPU usage per DN
spillsize	String	Data spilled to disks per DN
bandwidth	String	Maximum bandwidth per DN

### **Example Request**

 $\label{lem:general:g$ 

### **Example Response**

### Status code: 200

The exception rule list is obtained successfully.

```
"workload_res_code" : 0,
"workload_res_str" : null,
"items" : [ {
  "name" : "rule_01",
"action" : "abort",
  "queues" : [ "pool2" ],
  "except_rules" : {
  "blocktime" : "60",
    "elapsedtime" : "212"
}, {
    "name" : "rule_02",
    "action" : "penalty",
  "queues": [ "pool1", "pool2" ],
"except_rules": {
  "blocktime": "11",
    "elapsedtime": "111",
    "allcputime" : "11",
"cpuavgpercent" : "11",
    "spillsize" : "111",
    "bandwidth" : "11",
    "cpuskewpercent" : "-1"
}],
"count" : 2
```

### **Status Code**

Status Code	Description
200	The exception rule list is obtained successfully.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.7.14 Binding and Unbinding Exception Rules

### **Function**

This API binds or unbinds exception rules and is only compatible with clusters of version 8.2.0 or later. It is not supported by clusters of GaussDB(DWS) 3.0.

#### URI

POST /v1/{project\_id}/clusters/{cluster\_id}/workload/queue/{queue\_name}/rules

Table 5-440 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
queue_name	Yes	String	Resource pool name.

# **Request Parameters**

**Table 5-441** Request body parameters

Parameter	Mandatory	Туре	Description
queue_name	Yes	String	Exception rule name
add_rules	No	Array of strings	Exception rule to be bound
del_rules	No	Array of strings	Exception rule to be unbound

# **Response Parameters**

**Table 5-442** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Response code

Parameter	Туре	Description
workload_res_ str	String	Response message

# **Example Request**

```
POST https://{Endpoint}/v1/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/queue/queue_1/rules

{
    "queue_name" : "rs1",
    "add_rules" : [ "rule_t2" ],
    "del_rules" : [ "rule_t3" ]
}
```

### **Example Response**

#### Status code: 200

The exception rule is successfully bound or unbound.

```
{
    "workload_res_code" : 0,
    "workload_res_str" : null
}
```

#### **Status Code**

Status Code	Description
200	The exception rule is successfully bound or unbound.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.7.15 Associating a Resource Pool with a User

### **Function**

This API is used to associate a user to a resource pool.

### URI

POST /v2/{project\_id}/clusters/{cluster\_id}/workload/queues/{queue\_name}/users/batch-create

**Table 5-443** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.
queue_name	Yes	String	Resource pool name

**Table 5-444** Request body parameters

Parameter	Mandatory	Туре	Description
queue_name	Yes	String	Resource pool name
user_list	Yes	Array of user_list objects	List of resource pool users.

Table 5-445 user\_list

Parameter	Mandatory	Туре	Description
user_name	No	String	Username

# **Response Parameters**

**Table 5-446** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Response code
workload_res_ str	String	Response message

### **Example Request**

```
POST https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/queues/resource1/users/batch-create

{
    "queue_name" : "test11",
    "user_list" : [ {
        "user_name" : "user_batch"
    } ]
}
```

### **Example Response**

### Status code: 200

The user bound to the resource pool is successfully added.

```
{
  "workload_res_code" : 0,
  "workload_res_str" : "Success to associate users."
}
```

### **Status Code**

Status Code	Description
200	The user is successfully bound to the resource pool.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.16 Obtaining the List of Users Bound to a Resource Pool

### **Function**

This API is used to obtain the list of users bound to a resource pool.

### URI

GET /v2/{project\_id}/clusters/{cluster\_id}/workload/queues/{queue\_name}/users

**Table 5-447** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
queue_name	Yes	String	Resource pool name

**Table 5-448** Query parameters

Parameter	Mandatory	Туре	Description
limit	No	Integer	Number of records to be queried
offset	No	Integer	Offset

None

# **Response Parameters**

**Table 5-449** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Status code
workload_res_ str	String	Result description
queue_name	String	Resource pool name
user_list	Array of WorkloadQu eueUser objects	List of resource pool users.
count	Integer	Total number of records

<b>Table 5-450</b>	WorkloadQueueUse	r
--------------------	------------------	---

Parameter	Туре	Description
user_name	String	Username
occupy_resour ce_list	Array of OccupyResou rce objects	Plan execution stage
exec_result	Integer	Execution result
exec_log	String	Execution log

### Table 5-451 OccupyResource

Parameter	Туре	Description
resource_nam e	String	Resource name
resource_valu e	Integer	Resource attribute value
value_unit	String	Resource attribute unit
resource_desc ription	String	Additional resource description

### **Example Request**

 $GET\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eba996-13f8b44994c1/workload/queues/resource1/users$ 

### **Example Response**

#### Status code: 200

The list of users bound to the resource pool is obtained successfully.

```
{
  "queue_name" : "rs1",
  "user_list" : [ {
    "user_name" : "user_batch",
    "occupy_resource_list" : [ {
        "resource_name" : "memory_used",
        "resource_value" : 0,
        "value_unit" : "M",
        "resource_description" : ""
    } ]
    } ],
    "count" : 1
}
```

### **Status Code**

Status Code	Description
200	The list of users bound to the resource pool is obtained successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.17 Unbinding a User from a Resource Pool

### **Function**

This API is used to disassociate a user from a resource pool.

### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/workload/queues/{queue\_name}/users/batch-delete

**Table 5-452** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.
queue_name	Yes	String	Resource pool name

# **Request Parameters**

**Table 5-453** Request body parameters

Parameter	Mandatory	Туре	Description
queue_name	Yes	String	Resource pool name

Parameter	Mandatory	Туре	Description
user_list	Yes	Array of user_list objects	List of resource pool users

### Table 5-454 user\_list

Parameter	Mandatory	Туре	Description
user_name	No	String	Username

# **Response Parameters**

Status code: 200

**Table 5-455** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Response code
workload_res_ str	String	Response message

# **Example Request**

```
POST https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/queues/resource1/users/batch-delete

{
    "queue_name" : "test11",
    "user_list" : [ {
        "user_name" : "user_batch"
    } ]
```

# **Example Response**

#### Status code: 200

The user bound to the resource pool is deleted successfully.

```
{
    "workload_res_code" : 0,
    "workload_res_str" : "User disassociated successfully."
}
```

### **Status Code**

Status Code	Description
200	The user bound to the resource pool is deleted successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.18 Creating a Resource Management Plan

### **Function**

This API is used to add a resource management plan.

### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/workload/plans

**Table 5-456** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.

**Table 5-457** Request body parameters

Parameter	Mandatory	Туре	Description
plan_name	Yes	String	Name of a resource management plan. The value must start with a lowercase letter and contain 3 to 28 characters, including only letters, digits, and underscores (_).
logical_cluster _name	No	String	Name of a logical cluster

# **Response Parameters**

Table 5-458 Parameters in the response body

Parameter	Туре	Description
workload_res_cod e	Integer	Status code
workload_res_str	String	Status description.

# **Example Request**

Add the resource management plan test2:

```
POST https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/plans {
    "plan_name":"test2"
}
```

# **Example Response**

#### Status code: 200

The resource management plan is created successfully.

```
{
"workload_res_code" : 0,
"workload_res_str" : "success added workload plan"
}
```

### **Status Code**

Status Code	Description
200	The resource management plan is created successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.7.19 Querying the Resource Management Plan List

### **Function**

This API is used to query all resource management plans in a cluster.

### **URI**

GET /v2/{project\_id}/clusters/{cluster\_id}/workload/plans

Table 5-459 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-460** Query parameters

Parameter	Mandatory	Туре	Description
logical_cluster _name	No	String	Logical cluster name. In non- logical cluster mode, leave this parameter blank. In logical cluster mode, it is the logical cluster name.

Parameter	Mandatory	Туре	Description
limit	No	Integer	Number of records to be queried
offset	No	Integer	Offset

None

# **Response Parameters**

**Table 5-461** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Status code
workload_res_ str	String	Result description
plan_list	Array of WorkloadPla nInfo objects	Resource pool name
count	Integer	Total number of records

Table 5-462 WorkloadPlanInfo

Parameter	Туре	Description
status	Integer	Plan Status
project_id	String	Resource Sets ID.
cluster_id	String	Cluster ID
plan_id	String	Plan ID
plan_name	String	Plan name
current_stage	String	Current plan stage
logical_cluster _name	String	Name of the logical cluster

Parameter	Туре	Description
stage_list	Array of PlanStage objects	List of plan stages

# Table 5-463 PlanStage

Parameter	Туре	Description
month	String	Month of the plan
day	String	Date of the plan
plan_id	String	Plan ID
stage_id	String	Plan stage ID
stage_name	String	Plan stage name
start_time	String	Plan start time
end_time	String	Plan end time
next_valid_ti me	String	Next validation time
queue_list	Array of QueueResour celtem objects	Resource queue list

### Table 5-464 QueueResourceItem

Parameter	Туре	Description
queue_name	String	Resource pool name
queue_resour ces	Array of WorkloadRes ourceItem objects	Resource configuration queue

# Table 5-465 WorkloadResourceItem

Parameter	Туре	Description
resource_nam e	String	Resource name

Parameter	Туре	Description
resource_valu e	Integer	Resource attribute value
value_unit	String	Resource attribute unit
resource_desc ription	String	Additional resource description

# **Example Request**

 $\label{lem:general} $$\operatorname{GET}$ $$ \frac{1}{2m^2} - \frac{1730fdb4b}{clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/plans} $$$ 

# **Example Response**

#### Status code: 200

The resource management plan list is queried successfully.

```
{
    "plan_list" : [ {
        "status" : 0,
        "cluster_id" : "862201cd-f822-4dbc-ae3b-c7b9d080eea6",
        "project_id" : "0536cdee2200d5912f7cc00b877980f1",
        "plan_id" : "dde42d0c-38f7-4592-841d-5a16c5512408",
        "plan_name" : "plan1",
        "current_stage" : null,
        "logical_cluster_name" : null,
        "stage_list" : null
    } ],
    "count" : 1
```

### **Status Code**

Status Code	Description
200	The resource management plan list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.20 Starting a Resource Management Plan

### **Function**

This API is used to start a resource management plan.

#### URI

POST /v2/{project\_id}/clusters/{cluster\_id}/workload/plans/{plan\_id}/start

Table 5-466 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
plan_id	Yes	String	Plan ID

### **Request Parameters**

None

### **Response Parameters**

Status code: 200

**Table 5-467** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Response code
workload_res_ str	String	Response message

# **Example Request**

 $POST\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eba996-13f8b44994c1/workload/plans/0c2145ad-4d76-4abe-bd1b-cdbe9128478a/start$ 

### **Example Response**

The resource management plan is started.

```
{
    "workload_res_code" : 0,
    "workload_res_str" : "success started workload plan"
}
```

### **Status Code**

Status Code	Description
200	The resource management plan is started.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.7.21 Viewing Plan Execution Logs**

# **Function**

This API is used to view plan execution logs.

### **URI**

GET /v2/{project\_id}/clusters/{cluster\_id}/workload/plans/{plan\_id}/logs

Table 5-468 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
plan_id	Yes	String	Plan ID

Table 5-469 Query parameters

Parameter	Mandatory	Туре	Description
limit	No	Integer	Number of records to be queried
offset	No	Integer	Offset

# **Request Parameters**

None

# **Response Parameters**

Status code: 200

Table 5-470 Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Status code
workload_res_ str	String	Result description
plan_logs	Array of PlanLog objects	Resource pool name
count	Integer	Total number of records.

Table 5-471 PlanLog

Parameter	Туре	Description
exec_time	String	Execution time
stage_info	String	Execute the plan phase
exec_result	Integer	Execution result
exec_log	String	Execution log

# **Example Request**

 $\label{lem:general:condition} GET\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eba996-13f8b44994c1/workload/plans/0c2145ad-4d76-4abe-bd1b-cdbe9128478a/logs$ 

# **Example Response**

#### Status code: 200

The resource management plan list is queried successfully.

```
{
    "plan_logs" : [ {
        "exec_time" : "2023-08-23 13:28:50",
        "stage_info" : "stage1",
        "exec_result" : 0,
        "exec_log" : "2023-08-23 13:28:47.661892+00:00 UTC |INFO| start change stage."
    } ],
    "count" : 1
}
```

#### **Status Code**

Status Code	Description
200	The resource management plan list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.22 Querying Details About a Resource Management Plan

#### **Function**

This API is used to query details about a resource management plan.

#### **URI**

GET /v2/{project\_id}/clusters/{cluster\_id}/workload/plans/{plan\_id}

Table 5-472 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
plan_id	Yes	String	Plan ID.

# **Request Parameters**

None

# **Response Parameters**

**Table 5-473** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Status code
workload_res_ str	String	Result description
workload_pla n	WorkloadPla nInfo object	Queue details

Table 5-474 WorkloadPlanInfo

Parameter	Туре	Description
status	Integer	Plan Status
project_id	String	Resource Sets ID.
cluster_id	String	Cluster ID
plan_id	String	Plan ID
plan_name	String	Plan name
current_stage	String	Current plan stage
logical_cluster _name	String	Name of the logical cluster
stage_list	Array of PlanStage objects	List of plan stages

Table 5-475 PlanStage

Parameter	Туре	Description
month	String	Month of the plan
day	String	Date of the plan
plan_id	String	Plan ID
stage_id	String	Plan stage ID
stage_name	String	Plan stage name
start_time	String	Plan start time
end_time	String	Plan end time
next_valid_ti me	String	Next validation time
queue_list	Array of QueueResour celtem objects	Resource queue list

 Table 5-476 QueueResourceItem

Parameter	Туре	Description
queue_name	String	Resource pool name
queue_resour ces	Array of WorkloadRes ourceItem objects	Resource configuration queue

Table 5-477 WorkloadResourceItem

Parameter	Туре	Description
resource_nam e	String	Resource name
resource_valu e	Integer	Resource attribute value
value_unit	String	Resource attribute unit
resource_desc ription	String	Additional resource description

### **Example Request**

GET https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/plans/0c2145ad-4d76-4abe-bd1b-cdbe9128478a

#### **Example Response**

#### Status code: 200

Details about a resource management plan are queried successfully.

```
"workload_plan" : {
 "status" : 0.
 "cluster_id": "862201cd-f822-4dbc-ae3b-c7b9d080eea6",
"project_id" : "0536cdee2200d5912f7cc00b877980f1", 
"plan_id" : "dde42d0c-38f7-4592-841d-5a16c5512408",
 "plan_name" : "plan1",
 "current_stage": ""
 "logical_cluster_name": "",
 "stage_list" : [ {
  "month" : 4,
  "day" : 4,
  "plan_id": "dde42d0c-38f7-4592-841d-5a16c5512408",
  "stage_id" : "00bc8bc5-c885-42e5-b205-80547d3f94c4",
  "stage_name" : "stage2",
"start_time" : "00:00:00",
"end_time" : "00:00:00",
   "next_valid_time" : "2024-04-04 00:00:00",
   "queue_list" : [ {
     "queue_name" : "resouce1",
    "queue_resources" : [ {
    "resource_name" : "cpu",
      "resource_value": 1,
      "value_unit": "%",
      "resource_description" : "Workload Queue Memory Percent"
  } ]
```

#### **Status Code**

Status Code	Description
200	Details about a resource management plan are queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.23 Stopping a Resource Management Plan

#### **Function**

This API is used to stop a resource management plan.

#### URI

POST /v2/{project\_id}/clusters/{cluster\_id}/workload/plans/{plan\_id}/stop

Table 5-478 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
plan_id	Yes	String	Plan ID

#### **Request Parameters**

None

### **Response Parameters**

Status code: 200

**Table 5-479** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Response code
workload_res_ str	String	Response message

# **Example Request**

 $POST\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eba996-13f8b44994c1/workload/plans/0c2145ad-4d76-4abe-bd1b-cdbe9128478a/stop$ 

#### **Example Response**

The resource management plan is stopped.

```
{
    "workload_res_code" : 0,
    "workload_res_str" : "success stopped workload plan"
}
```

#### **Status Code**

Status Code	Description
200	The resource management plan is stopped.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.24 Deleting a Resource Management Plan

# **Function**

This API is used to delete a resource management plan.

#### **URI**

DELETE /v2/{project\_id}/clusters/{cluster\_id}/workload/plans/{plan\_id}

Table 5-480 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.
plan_id	Yes	String	Plan ID

# **Request Parameters**

None

### **Response Parameters**

Status code: 200

**Table 5-481** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Response code
workload_res_ str	String	Response message

#### **Example Request**

 $DELETE\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eba996-13f8b44994c1/workload/plans/0c2145ad-4d76-4abe-bd1b-cdbe9128478a$ 

### **Example Response**

Status code: 200

Resource management plan deleted successfully.

```
{
    "workload_res_code" : 0,
    "workload_res_str" : "success deleted workload plan"
}
```

#### **Status Code**

Status Code	Description
200	The resource management plan is deleted successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.25 Adding a Resource Management Plan Stage

#### **Function**

This API is used to add a resource management plan phase.

#### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/workload/plans/{plan\_id}/stages

Table 5-482 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
plan_id	Yes	String	Plan ID

# **Request Parameters**

Table 5-483 Request body parameters

Parameter	Mandatory	Туре	Description
workload_pla n_stage	No	workload_pla n_stage object	Resource management plan stage details

Table 5-484 workload\_plan\_stage

Parameter	Mandatory	Туре	Description
day	No	String	Date
month	No	String	Month
stage_name	No	String	Plan
start_time	No	String	Start time
end_time	No	String	End time
queue_list	No	Array of QueueResour celtem objects	Resource queue

Table 5-485 QueueResourceItem

Parameter	Mandatory	Туре	Description
queue_name	Yes	String	Resource pool name
queue_resour ces	Yes	Array of WorkloadRes ourceItem objects	Resource configuration queue

Table 5-486 WorkloadResourceItem

Parameter	Mandatory	Туре	Description
resource_nam e	Yes	String	Resource name
resource_valu e	Yes	Integer	Resource attribute value
value_unit	No	String	Resource attribute unit
resource_desc ription	No	String	Additional resource description

# **Response Parameters**

Status code: 200

**Table 5-487** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Response code
workload_res_ str	String	Response message

### **Example Request**

```
POST https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/plans/0591129f-4970-44e7-b213-f7bce797de87/stages

{
    "workload_plan_stage" : {
        "day" : "1,2",
        "month" : "6",
        "stage_name" : "stage1",
        "start_time" : "00:00:00",
        "end_time" : "00:00:00",
        "queue_list" : [ {
```

```
"queue_name" : "pool1",
"queue_resources" : [ {
    "resource_name" : "cpu",
  "resource_value" : 20,
   "value_unit" : null,
  "resource_description" : null
}, {
    "resource_name" : "cpu_limit",
    "resource_value" : 0,
  "value_unit" : null,
  "resource_description" : null
}, {
"resource_name" : "memory",
"resource_value" : 0,
  "value_unit" : null,
"resource_description" : null
}, {
    "resource_name" : "concurrency",
    "resource_value" : 10,
  "value_unit" : null,
  "resource_description" : null
}, {
    "resource_name" : "shortQueryConcurrencyNum",
  "resource_value": -1,
  "value_unit" : null,
  "resource_description" : null
}]
```

# **Example Response**

#### Status code: 200

The resource management plan stage is added successfully.

```
{
    "workload_res_code" : 0,
    "workload_res_str" : ""
}
```

#### **Status Code**

Status Code	Description
200	The resource management plan stage is added successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.26 Querying Details About a Resource Management Plan Stage

#### **Function**

This API is used to query details about a resource management plan stage.

#### **URI**

GET /v2/{project\_id}/clusters/{cluster\_id}/workload/plans/{plan\_id}/stages/{stage\_id}

Table 5-488 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
plan_id	Yes	String	Plan ID
stage_id	Yes	String	Plan stage ID

#### **Request Parameters**

None

# **Response Parameters**

Table 5-489 Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Status code
workload_res_ str	String	Result description
workload_pla n_stage	PlanStage object	Plan phase details

Table 5-490 PlanStage

Parameter	Туре	Description
month	String	Month of the plan
day	String	Date of the plan
plan_id	String	Plan ID
stage_id	String	Plan stage ID
stage_name	String	Plan stage name
start_time	String	Plan start time
end_time	String	Plan end time
next_valid_ti me	String	Next validation time
queue_list	Array of QueueResour celtem objects	Resource queue list

 Table 5-491
 QueueResourceItem

Parameter	Туре	Description	
queue_name	String	Resource pool name	
queue_resour ces	Array of WorkloadRes ourceItem objects	Resource configuration queue	

Table 5-492 WorkloadResourceItem

Parameter	Туре	Description	
resource_nam e	String	Resource name	
resource_valu e	Integer	Resource attribute value	
value_unit	String	Resource attribute unit	
resource_desc ription	String	Additional resource description	

#### **Example Request**

GET https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/plans/0c2145ad-4d76-4abe-bd1b-cdbe9128478a/stages/00bc8bc5-c885-42e5-b205-80547d3f94c4

# **Example Response**

#### Status code: 200

Details about the resource management plan phase are queried successfully.

```
"workload_plan_stage" : {
   "month" : 4,
   "day" : 4,
   "plan_id" : "dde42d0c-38f7-4592-841d-5a16c5512408",
"stage_id" : "00bc8bc5-c885-42e5-b205-80547d3f94c4",
   "stage_name" : "stage2",
   "start_time" : "00:00:00",
"end_time" : "00:00:00",
   "next_valid_time" : "2024-04-04 00:00:00",
   "queue_list" : [ {
     "queue_name" : "resouce1",
     "queue_resources" : [ {
      "resource_name" : "cpu",
      "resource_value" : 1,
       "value_unit": null,
      "resource_description" : null
}
}
    }]
```

#### **Status Code**

Status Code	Description	
200	Details about the resource management plan phase are queried successfully.	
400	Request error.	
401	Authentication failed.	
403	You do not have required permissions.	
404	No resources found.	
500	Internal server error.	
503	Service unavailable.	

# 5.7.27 Deleting a Resource Management Plan Stage

#### **Function**

This API is used to delete a resource management plan stage.

#### **URI**

DELETE /v2/{project\_id}/clusters/{cluster\_id}/workload/plans/{plan\_id}/stages/{stage\_id}

Table 5-493 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
plan_id	Yes	String	Plan ID
stage_id	Yes	String	Plan stage ID

# **Request Parameters**

None

#### **Response Parameters**

Status code: 200

Table 5-494 Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Response code
workload_res_ str	String	Response message

#### **Example Request**

DELETE https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/plans/0c2145ad-4d76-4abe-bd1b-cdbe9128478a/stages/00bc8bc5-c885-42e5-b205-80547d3f94c4

### **Example Response**

Status code: 200

The resource management plan stage is deleted successfully.

```
{
    "workload_res_code" : 0,
    "workload_res_str" : "success deleted workload plan stage"
}
```

#### **Status Code**

Status Code	Description
200	The resource management plan stage is deleted successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.28 Modifying a Resource Management Plan Stage

#### **Function**

This API is used to modify a resource management plan stage.

#### **URI**

PUT /v2/{project\_id}/clusters/{cluster\_id}/workload/plans/{plan\_id}/stages/{stage\_id}

**Table 5-495** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
plan_id	Yes	String	Plan ID
stage_id	Yes	String	Plan stage ID

# **Request Parameters**

**Table 5-496** Request body parameters

Parameter	Mandatory	Туре	Description
workload_pla n_stage	Yes	workload_pla n_stage object	Resource management plan stage details

Table 5-497 workload\_plan\_stage

Parameter	Mandatory	Туре	Description
day	Yes	String	Date
month	Yes	String	Month
stage_name	Yes	String	Plan stage
start_time	Yes	String	Start time
end_time	No	String	End time
queue_list	Yes	Array of WorkloadQu eueltem objects	Resource queue

Table 5-498 WorkloadQueueItem

Parameter	Mandatory	Туре	Description
queue_name	Yes	String	Resource pool name
logical_cluster _name	No	String	Logical cluster name
short_query_o ptimize	No	String	Specifies whether to enable short query acceleration for workload queues.
short_query_c oncurrency_n um	No	Integer	Number of concurrent short queries in the workload queue.
resource_item _list	Yes	Array of WorkloadRes ourceltem objects	Resource configuration queue

Table 5-499 WorkloadResourceItem

Parameter	Mandatory	Туре	Description
resource_nam e	Yes	String	Resource name
resource_valu e	Yes	Integer	Resource attribute value
value_unit	No	String	Resource attribute unit
resource_desc ription	No	String	Additional resource description

# **Response Parameters**

Status code: 200

**Table 5-500** Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Response code
workload_res_ str	String	Response message

#### **Example Request**

```
PUT https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-
a996-13f8b44994c1/workload/plans/0591129f-4970-44e7-b213-f7bce797de87/stages/00bc8bc5-c885-42e5-
b205-80547d3f94c4
 "workload_plan_stage": {
  "day": "1,2",
"month": "6",
  "stage_name": "stage1",
  "start_time": "00:00:00",
"end_time": "00:00:00",
  "queue_list": [
     "queue_name": "pool1",
      "queue_resources": [
        "resource_name": "cpu",
        "resource_value": 20,
        "value_unit": null,
        "resoruceDescription": null
        "resource_name": "cpu_limit",
        "resource_value": 0,
        "value_unit": null,
        "resoruce_description": null
```

```
"resource_name": "memory",
    "resource_value": 0,
    "value_unit": null,
    "resoruceDescription": null
},
{
    "resource_name": "concurrency",
    "resource_value": 10,
    "value_unit": null,
    "resoruceDescription": null
},
{
    "resource_name": "shortQueryConcurrencyNum",
    "resource_value": -1,
    "value_unit": null,
    "resoruceDescription": null
}
}
```

# **Example Response**

Status code: 200

Resource management plan modified.

```
{
    "workload_res_code" : 0,
    "workload_res_str" : ""
}
```

#### **Status Code**

Status Code	Description
200	Resource management plan modified.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.29 Switch to Another Resource Management Plan Stage

#### **Function**

This API is used to switch to another resource management plan stage.

#### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/workload/plans/{plan\_id}/stage-switch

Table 5-501 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.
plan_id	Yes	String	Plan ID

# **Request Parameters**

**Table 5-502** Request body parameters

Parameter	Mandatory	Туре	Description
stage_id	Yes	String	Plan stage ID

# **Response Parameters**

Status code: 200

Table 5-503 Response body parameters

Parameter	Туре	Description
workload_res_ code	Integer	Response code
workload_res_ str	String	Response message

# **Example Request**

```
POST\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eba996-13f8b44994c1/workload/plans/0591129f-4970-44e7-b213-f7bce797de87/stage-switch
```

```
ា "stage_id" : "0c2145ad-4d76-4abe-bd1b-cdbe9128478a" ।
```

### **Example Response**

#### Status code: 200

Resource management plan stage switched.

```
{
  "workload_res_code" : 0,
  "workload_res_str" : ""
}
```

#### **Status Code**

Status Code	Description
200	Resource management plan stage switched.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.30 Querying Cluster Schema Space Information

#### **Function**

This API is used to query space information of a cluster schema.

#### **URI**

GET /v2/{project\_id}/clusters/{cluster\_id}/databases/{database\_name}/schemas

Table 5-504 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
database_na me	Yes	String	Database name

**Table 5-505** Query parameters

Parameter	Mandatory	Туре	Description
sort_key	No	String	Sorting field
sort_dir	No	String	Sorting rule
keywords	No	String	Keyword entered for search
limit	No	Integer	Number of records to be queried
offset	No	Integer	Offset

# **Request Parameters**

None

# **Response Parameters**

**Table 5-506** Response body parameters

Parameter	Туре	Description
schemas	Array of Schemalnfo objects	Schema information list
count	Integer	Total number of records

**Table 5-507** SchemaInfo

Parameter	Туре	Description
schema_name	String	Schema name
database_na me	String	Database name
total_value	Integer	Total space used by schemas in the cluster
perm_space	Integer	Schema space threshold
skew_percent	Double	Skew ratio
min_value	Integer	Minimum value
max_value	Integer	Maximum value
min_dn	String	Minimum number of DNs

Parameter	Туре	Description
max_dn	String	Maximum number of CNs
dn_num	Integer	Number of DNs

# **Example Request**

 $GET\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/databases/gaussdb/schemas$ 

# **Example Response**

#### Status code: 200

Shema space information retrieved.

```
{
  "schemas": [ {
      "schema_name": "gs_logical_cluster",
      "database_name": "gaussdb",
      "total_value": 0,
      "perm_space": -1,
      "skew_percent": 0.0,
      "min_value": 0,
      "max_value": 0,
      "min_dn": "dn_6001_6002",
      "max_dn": "",
      "dn_num": 3
      } ],
      "count": 2
}
```

#### **Status Code**

Status Code	Description
200	Shema space information retrieved.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.7.31 Updating the Space Limit of a Schema

#### **Function**

This API is used to update the space limit of a schema.

#### **URI**

PUT /v2/{project\_id}/clusters/{cluster\_id}/databases/{database\_name}/schemas

**Table 5-508** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
database_na me	Yes	String	Database name

# **Request Parameters**

Table 5-509 Request body parameters

Parameter	Mandatory	Туре	Description
schema_name	Yes	String	Schema space name
perm_space	Yes	String	Schema space threshold

#### **Response Parameters**

Status code: 200

**Table 5-510** Response body parameters

Parameter	Туре	Description
ret_code	Integer	Response code

### **Example Request**

 $PUT\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eba996-13f8b44994c1/databases/gaussdb/schemas$ 

```
{
    "schema_name" : "gs_logical_cluster",
    "perm_space" : 10240
}
```

# **Example Response**

Status code: 200

Schema space limit updated.

```
{
    "ret_code" : 0
}
```

#### **Status Code**

Status Code	Description
200	Schema space limit updated.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.8 Alarm Management

# **5.8.1 Querying Alarm Configurations**

# **Function**

This API is used to query alarm configurations.

#### **URI**

GET /v2/{project\_id}/alarm-configs

**Table 5-511** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

**Table 5-512** Query parameters

Parameter	Mandatory	Туре	Description
offset	No	String	Current page. The default value is <b>1</b> , and the maximum value is <b>10000</b> .
limit	No	String	Number of displayed records. A maximum of 1000 pieces are supported.

# **Request Parameters**

None

# **Response Parameters**

**Table 5-513** Response body parameters

Parameter	Туре	Description
count	Integer	Total number of alarm configurations
alarm_configs	Array of AlarmConfig Response objects	Alarm configuration list

**Table 5-514** AlarmConfigResponse

Parameter	Туре	Description	
id	String	Alarm configuration ID	
alarm_id	String	Alarm ID	
alarm_name	String	Alarm name	

Parameter	Туре	Description
name_space	String	Service
alarm_level	String	Alarm severity, which can be:
		• urgent
		important
		• minor
		• prompt
is_user_visible	String	Whether it is visible to users
is_converge	String	Whether to cover the prior alarm
converge_tim e	Integer	Coverage time
is_maintain_vi sible	String	Whether O&M is visible

# **Example Request**

https://{Endpoint}/v2/{project\_id}/alarm-configs

# **Example Response**

#### Status code: 200

```
{
    "alarm_configs" : [ {
        "id" : "fd02e440-b4e2-4d2c-8d98-4d80224cf848",
        "alarm_id" : "DWS_2000000021_1",

"alarm_name": "File handle usage exceeds the threshold",
        "name_space" : "dws",
        "alarm_level" : "urgent",
        "is_user_visible" : "1",
        "is_converge" : "0",
        "converge_time" : 0,
        "is_maintain_visible" : "0"
    } ],
    "count" : 1
```

#### **Status Code**

Status Code	Description
200	The alarm configuration is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.

Status Code	Description
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.8.2 Querying Alarm Details List

# **Function**

This API is used to query the alarm details list.

#### **URI**

GET /v2/{project\_id}/alarms

Table 5-515 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

**Table 5-516** Query parameters

Parameter	Mandatory	Туре	Description
time_zone	Yes	String	Time zone
offset	No	String	Current page The default value is <b>1</b> , and the maximum value is <b>10000</b> .
limit	No	String	Number of displayed records. A maximum of 1000 pieces are supported.

# **Request Parameters**

None

# **Response Parameters**

**Table 5-517** Response body parameter

Parameter	Туре	Description
count	Integer	Total number of alarm details
alarm_details	Array of AlarmDetailR esponse objects	Alarm detail list

Table 5-518 AlarmDetailResponse

Parameter	Туре	Description
alarm_id	String	Alarm definition ID
alarm_name	String	Alarm name
alarm_level	String	Alarm severity, which can be:
		• urgent
		important
		• minor
		• prompt
alarm_source	String	Alarm service
alarm_messag e	String	Alarm message
alarm_locatio n	String	Alarm location
resource_id	String	ID of the alarm source
resource_id_n ame	String	Alarm source name
alarm_genera te_date	String	Alarm date
alarm_status	String	Alarm status

# **Example Request**

https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/alarms?time\_zone=GMT

# **Example Response**

```
Status code: 200
```

```
{
"alarm_details" : [ {
"alarm_id" : "DWS_01010",
```

```
"alarm_name": "Cluster status is abnormal.",
    "alarm_level" : "1",
    "alarm_source" : "DWS",
    "alarm_message" : "CloudService=DWS, resourceld: 5e76e8e2-d0cf-4b64-9d9a-aadbb04b54f7,
resourceldName: z30013507-evs-09, domain_name=El_dws_lwx565140,
domain_id=0676610f3a0a4c2c80c50bea7ddf18c1,
res_domain_name=op_svc_dws_0676610f3a0a4c2c80c50bea7ddf18c1",
    "alarm_location": "cluster_id: 5e76e8e2-d0cf-4b64-9d9a-aadbb04b54f7, cluster_name: z30013507-evs-09:
cluster_type: dws, domain_name: El_dws_demo,domain_id: 0676610f3a0a4c2c80c50bea7ddf18c1,",
    "resource_id" : "5e76e8e2-d0cf-4b64-9d9a-aadbb04b54f7",
    "resource_id_name" : "z30013507-evs-09",
    "alarm_generate_date" : "2022-10-27 08:11:29",
    "alarm_status" : "0"
    } ],
    "count" : 1
```

#### **Status Code**

Status Code	Description
200	The alarm details list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.8.3 Querying the Alarm Statistics List

#### **Function**

This API is used to query the alarm statistics list.

#### **URI**

GET /v2/{project\_id}/alarm-statistic

#### **Table 5-519** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Table 5-520 Query parameters

Parameter	Mandatory	Туре	Description
time_zone	Yes	String	Time zone

# **Request Parameters**

None

# **Response Parameters**

Status code: 200

**Table 5-521** Response body parameter

Parameter	Туре	Description
alarm_statisti cs	Array of AlarmStatisti cResponse objects	Alarm statistics list.

Table 5-522 AlarmStatisticResponse

Parameter	Туре	Description
date	String	Date
urgent	String	Urgent
important	String	Important
minor	String	Minor
prompt	String	Prompt

# **Example Request**

https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/alarm-statistic?time\_zone=GMT

# **Example Response**

```
{
    "alarm_statistics" : [ {
        "date" : "2022-10-21",
        "urgent" : 0,
        "important" : 0,
        "minor" : 0,
        "prompt" : 0
```

```
}, {
    "date" : "2022-10-22",
    "urgent" : 0,
   "important" : 0,
"minor" : 0,
   "prompt": 0
}, {
  "date" : "2022-10-23",
  "urgent" : 0,
  "acrtant" : 0,
   "minor" : 0,
"prompt" : 0
}, {
  "date" : "2022-10-24",
  "urgent" : 0,
   "important": 0,
   "minor" : 0,
"prompt" : 0
}, {
  "date" : "2022-10-25",
  "urgent" : 0,
   "important": 0,
   "minor" : 0,
"prompt" : 0
}, {
  "date" : "2022-10-26",
  "urgent" : 0,
   "important" : 0,
   "minor" : 0,
"prompt" : 0
 | "date" : "2022-10-27",
| "urgent" : 17,
   "important" : 0,
   "minor" : 0,
"prompt" : 0
}]
```

#### **Status Code**

Status Code	Description
200	The alarm statistics list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.8.4 Querying the Alarm Subscription List

### **Function**

This API is used to query the alarm subscription list.

#### URI

GET /v2/{project\_id}/alarm-subs

#### Table 5-523 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

#### Table 5-524 Query parameters

Parameter	Mandatory	Туре	Description
offset	No	String	Current page. The default value is <b>1</b> , and the maximum value is <b>10000</b> .
limit	No	String	Number of displayed records. A maximum of 1000 pieces are supported.

# **Request Parameters**

None

# **Response Parameters**

**Table 5-525** Response body parameter

Parameter	Туре	Description
count	Integer	Total number of alarm subscriptions.
alarm_subscri ptions	Array of AlarmSubscri ptionRespons e objects	Alarm subscription list

Table 5-526 AlarmSubscriptionResponse

Parameter	Туре	Description
id	String	Alarm subscription ID
name	String	Subscribed alarm name
enable	Integer	<ul><li>Whether to enable subscription:</li><li>1: enable</li><li>0: disable</li></ul>
alarm_level	String	Alarm severity, which can be:  urgent important minor prompt
project_id	String	Resource Sets ID.
name_space	String	Service
notification_t arget	String	Message topic address
notification_t arget_name	String	Message topic name
notification_t arget_type	String	Message topic type
language	String	Language
time_zone	String	Time zone

### **Example Request**

https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/alarm-subs

# **Example Response**

```
{
  "count" : 1,
  "alarm_subscriptions" : [ {
    "id" : "e8d8359f-b8bd-4b80-bc4d-32c86c7c725e",
    "name" : "00",
    "enable" : 1,
    "language" : "zh-cn",
    "alarm_level" : "urgent,important,minor,prompt",
    "project_id" : "4cf650fd46704908aa071b4df2453e1e",
    "name_space" : "DWS",
    "notification_target" : "urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:CGS",
    "notification_target_name" : "CGS",
    "notification_target_type" : "SMN",
    "time_zone" : "GMT+08:00"
```

}] }

#### **Status Code**

Status Code	Description
200	The alarm subscription list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.8.5 Creating an Alarm Subscription Task

#### **Function**

This API is used to create an alarm subscription task.

#### **URI**

POST /v2/{project\_id}/alarm-subs

**Table 5-527** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

### **Request Parameters**

**Table 5-528** Request body parameters

Parameter	Mandatory	Туре	Description
name	Yes	String	Subscribed alarm name

Parameter	Mandatory	Туре	Description
enable	No	Integer	Whether to enable subscription:  • 1: enable  • 0: disable
alarm_level	No	String	Alarm severity, which can be:  urgent important minor prompt
notification_t arget	Yes	String	Message topic address
notification_t arget_name	Yes	String	Message topic name
notification_t arget_type	Yes	String	Message topic type. Only SMN is supported.
time_zone	Yes	String	Time zone

# **Response Parameters**

**Table 5-529** Response body parameters

Parameter	Туре	Description
id	String	Alarm subscription ID
name	String	Subscribed alarm name
enable	Integer	<ul><li>Whether to enable subscription:</li><li>1: enable</li><li>0: disable</li></ul>
alarm_level	String	Alarm severity, which can be:  urgent important minor prompt
project_id	String	Resource Sets ID.
name_space	String	Service

Parameter	Туре	Description
notification_t arget	String	Message topic address
notification_t arget_name	String	Message topic name
notification_t arget_type	String	Message topic type
language	String	Language
time_zone	String	Time zone

Enable the alarm subscription **zrf-test-12** with the severity of **critical**, **major**, and **minor** and select the message topic **dws-test-nodelete** whose address is **urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete**:

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/alarm-subs

{
    "alarm_level" : "urgent,important,minor",
    "enable" : 1,
    "name" : "zrf-test-12",
    "notification_target" : "urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
    "notification_target_name" : "dws-test-nodelete",
    "notification_target_type" : "SMN",
    "time_zone" : "GMT+08:00"
}
```

## **Example Response**

#### Status code: 200

```
{
  "id" : "273ce506-dad8-411c-92f9-be5004739b40",
  "name" : "zrf-test-12",
  "enable" : 1,
  "language" : "zh-cn",
  "alarm_level" : "urgent,important,minor",
  "project_id" : "4cf650fd46704908aa071b4df2453e1e",
  "name_space" : "dws",
  "notification_target" : "urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
  "notification_target_name" : "dws-test-nodelete",
  "notification_target_type" : "SMN",
  "time_zone" : "GMT+08:00"
}
```

Status Code	Description
200	The alarm subscription is created successfully.

Status Code	Description
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.8.6 Updating Subscribed Alarms

## **Function**

This API is used to update subscribed alarms.

#### **URI**

PUT /v2/{project\_id}/alarm-subs/{alarm\_sub\_id}

Table 5-530 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
alarm_sub_id	Yes	String	Alarm subscription ID

## **Request Parameters**

**Table 5-531** Request body parameters

Parameter	Mandatory	Туре	Description
name	Yes	String	Subscribed alarm name
enable	No	Integer	Whether to enable subscription:  • 1: enable  • 0: disable

Parameter	Mandatory	Туре	Description
alarm_level	No	String	Alarm severity, which can be:
			• urgent
			important
			• minor
			• prompt
notification_t arget	Yes	String	Address for the message topic
notification_t arget_name	Yes	String	Message topic name
notification_t arget_type	Yes	String	Message topic type. Only SMN is supported.

## **Response Parameters**

**Table 5-532** Response body parameters

Parameter	Туре	Description
id	String	Alarm subscription ID
name	String	Subscribed alarm name
enable	Integer	<ul><li>Whether to enable subscription:</li><li>1: enable</li><li>0: disable</li></ul>
alarm_level	String	Alarm severity, which can be:  urgent important minor prompt
project_id	String	Resource Sets ID.
name_space	String	Service
notification_t arget	String	Address for the message topic
notification_t arget_name	String	Message topic name
notification_t arget_type	String	Message topic type

Parameter	Туре	Description
language	String	Language
time_zone	String	Time zone

Modify the alarm subscription **zrf-test-13** with the severity of **Critical, Major**, and **Minor**, and modify the message topic into **dws-test-nodelete**, and address into **urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete**:

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/alarm-subs/273ce506-dad8-411c-92f9-be5004739b40

{
    "alarm_level" : "urgent,important,minor",
    "enable" : 1,
    "name" : "zrf-test-13",
    "notification_target" : "urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
    "notification_target_name" : "dws-test-nodelete",
    "notification_target_type" : "SMN"
}
```

#### **Example Response**

#### Status code: 200

```
{
    "id" : "273ce506-dad8-411c-92f9-be5004739b40",
    "name" : "zrf-test-13",
    "enable" : 1,
    "language" : "zh-cn",
    "alarm_level" : "urgent,important,minor",
    "project_id" : "4cf650fd46704908aa071b4df2453e1e",
    "name_space" : "dws",
    "notification_target" : "urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
    "notification_target_name" : "dws-test-nodelete",
    "notification_target_type" : "SMN",
    "time_zone" : "GMT+08:00"
}
```

Status Code	Description
200	Subscribed alarms are updated successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.

Status Code	Description
503	The service was unavailable.

# 5.8.7 Deleting an Alarm Subscription

## **Function**

This API is used to delete a subscribed alarm.

#### **URI**

DELETE /v2/{project\_id}/alarm-subs/{alarm\_sub\_id}

**Table 5-533** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
alarm_sub_id	Yes	String	Alarm subscription ID

## **Request Parameters**

None

## **Response Parameters**

**Table 5-534** Response body parameters

Parameter	Туре	Description	
id	String	Alarm subscription ID	
name	String	Subscribed alarm name	
enable	Integer	Whether to enable subscription:	
		• 1: enable	
		• <b>0</b> : disable	

Parameter	Туре	Description
alarm_level	String	Alarm severity, which can be:  urgent important minor prompt
project_id	String	Resource Sets ID.
name_space	String	Service
notification_t arget	String	Address for the message topic
notification_t arget_name	String	Message topic name
notification_t arget_type	String	Message topic type
language	String	Language
time_zone	String	Time zone

 $https: // \{Endpoint\}/v2/4cf650fd46704908aa071b4df2453e1e/alarm-subs/273ce506-dad8-411c-92f9-be5004739b40\}/ (Endpoint)/ (Endp$ 

## **Example Response**

#### Status code: 200

```
{
  "id" : "273ce506-dad8-411c-92f9-be5004739b40",
  "name" : "zrf-test-13",
  "enable" : 1,
  "language" : "zh-cn",
  "alarm_level" : "urgent,important,minor",
  "project_id" : "4cf650fd46704908aa071b4df2453e1e",
  "name_space" : "dws",
  "notification_target" : "urn:smn:az1.dc1:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
  "notification_target_name" : "dws-test-nodelete",
  "notification_target_type" : "SMN",
  "itim_zone" : "GMT+08:00"
}
```

Status Code	Description
200	The alarm subscription is deleted successfully.
400	Request error.

Status Code	Description
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.9 Connection Management**

# 5.9.1 Applying for a Private Domain Name

#### **Function**

This API is used to apply for a domain name for a cluster.

#### URI

POST /v1.0/{project\_id}/clusters/{cluster\_id}/dns

Table 5-535 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

**Table 5-536** Request body parameters

Parameter	Mandatory	Туре	Description
name	Yes	String	Domain name to be created  NOTE  A domain name can contain hyphens (-) but cannot contain underscores (_).

Parameter	Mandatory	Туре	Description
type	Yes	String	<ul> <li>public: public network domain name</li> <li>private: private network domain name</li> </ul>
ttl	Yes	Integer	Caching period of the SOA record set (in seconds)  • Value range: 300 to 2147483647.  • The default value is <b>300</b> .

## **Response Parameters**

None

## **Example Request**

Apply for a public domain name **demo** for which the SOA cache duration is 300s:

```
POST https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/b5c45780-1006-49e3-b2d5-b3229975bbc7/dns

{
    "name" : "demo",
    "type" : "public",
    "ttl" : 300
```

## **Example Response**

None

Status Code	Description
200	The domain name is successfully applied for.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.9.2 Modifying a Cluster Domain Name

## **Function**

This API is used to change the domain name of a cluster.

#### **URI**

PUT /v1.0/{project\_id}/clusters/{cluster\_id}/dns

Table 5-537 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

**Table 5-538** Request body parameters

Parameter	Mandatory	Туре	Description
name	Yes	String	Domain name to be modified
type	Yes	String	<ul> <li>public: public network domain name</li> <li>private: private network domain name</li> </ul>
ttl	Yes	Integer	Caching period of the SOA record set (in seconds)  • Value range: 300 to 2147483647  • The default value is <b>300</b> .

## **Response Parameters**

None

Change the SOA cache duration for the public domain name **demo** to 300s.

```
PUT https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/b5c45780-1006-49e3-b2d5-b3229975bbc7/dns

{
    "name" : "demo",
    "type" : "public",
    "ttl" : 300
}
```

#### **Example Response**

None

#### **Status Code**

Status Code	Description
200	The cluster domain name is modified successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.9.3 Deleting a Cluster Domain Name

#### **Function**

This API is used to delete a cluster domain name.

#### URI

DELETE /v1.0/{project\_id}/clusters/{cluster\_id}/dns

#### Table 5-539 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID For details about how to obtain the ID, see  Obtaining the Cluster ID.

#### Table 5-540 Query parameters

Parameter	Mandatory	Туре	Description
type	Yes	String	Domain name type. Only public domain names can be deleted.

### **Request Parameters**

None

### **Response Parameters**

None

## **Example Request**

 $\label{lem:decomposition} DELETE\ https://\{Endpoint\}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/b5c45780-1006-49e3-b2d5-b3229975bbc7/dns?type=public$ 

## **Example Response**

None

Status Code	Description
200	The cluster domain name is deleted successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.9.4 Obtaining the Available ELB List

#### **Function**

This API is used to query the list of ELBs that can be bound to a cluster.

#### URI

GET /v2/{project\_id}/clusters/{cluster\_id}/elbs

Table 5-541 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

None

## **Response Parameters**

**Table 5-542** Response body parameters

Parameter	Туре	Description
elbs	Array of ClusterElbInf o objects	ELB list

Table 5-543 ClusterElbInfo

Parameter	Туре	Description
id	String	ELB ID
cluster_id	String	Cluster ID
name	String	ELB name
description	String	ELB description

Parameter	Туре	Description
vip_address	String	ELB address
vip_subnet_id	String	Subnet ID
tenant_id	String	Tenant ID
type	String	<ul><li>ELB type, which can be:</li><li>Internal: dedicated</li><li>External: shared</li></ul>
admin_state_ up	Boolean	<ul> <li>ELB status, which can be:</li> <li>ACTIVE: in use</li> <li>PENDING_CREATE: being created</li> <li>ERROR: Another forwarding policy of the same listener has the same forwarding rule.</li> </ul>
bandwidth	Integer	Binding status:  • 0: not bound  • 1: bound
vpc_id	String	VPC ID

 $\label{lem:general:g$ 

## **Example Response**

Status code: 200

**ELB** list

```
{
    "elbs" : [ {
        "id" : "1e6e0b66-6223-4523-bfd9-033c88b4ce9f",
        "name" : "loadbalancer5",
        "description" : "simple lb",
        "bandwidth" : 0,
        "vip_address" : "192.168.0.222",
        "admin_state_up" : true,
        "vpc_id" : "c9f1171e-dc90-4ae9-bf22-f9736983ce2d"
    } ]
```

Status Code	Description
200	The ELB list is obtained successfully.

Status Code	Description
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.9.5 Binding an ELB to a Cluster

#### **Function**

This API is used to bind an ELB to a cluster.

#### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/elbs/{elb\_id}

Table 5-544 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
elb_id	Yes	String	ID of the ELB to be bound to the cluster

## **Request Parameters**

None

## **Response Parameters**

**Table 5-545** Response body parameter

Parameter	Туре	Description
job_id	String	Job ID

 $https://\{Endpoint\}/v2/4cf650fd46704908aa071b4df2453e1e/clusters/194408fa-9d41-435c-a140-91edcf5fe519/elbs/1e6e0b66-6223-4523-bfd9-033c88b4ce9f$ 

## **Example Response**

Status code: 200

{"job\_id":"2c9081838417d8850184196d8282002b"}

#### **Status Code**

Status Code	Description
200	The ELB is successfully bound to the cluster.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

## 5.9.6 Unbinding an ELB From a Cluster

#### **Function**

This API is used to unbind an ELB from a cluster.

#### URI

DELETE /v2/{project\_id}/clusters/{cluster\_id}/elbs/{elb\_id}

Table 5-546 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
elb_id	Yes	String	ID of the bound ELB

## **Request Parameters**

None

## **Response Parameters**

Status code: 200

**Table 5-547** Response body parameter

Parameter	Туре	Description
job_id	String	Job ID

## **Example Request**

 $https://\{Endpoint\}/v2/4cf650fd46704908aa071b4df2453e1e/clusters/194408fa-9d41-435c-a140-91edcf5fe519/elbs/1e6e0b66-6223-4523-bfd9-033c88b4ce9f$ 

## **Example Response**

Status code: 200

{"job\_id":"2c9081838417d8850184196d8282002b"}

Status Code	Description
200	The ELB is successfully unbound from the cluster.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.

Status Code	Description
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.9.7 Binding an EIP to a Cluster

#### **Function**

This API is used to bind an EIP to a cluster.

#### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/eips/{eip\_id}

Table 5-548 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
eip_id	Yes	String	ID of the EIP to be bound to the cluster

#### **Request Parameters**

None

## **Response Parameters**

None

## **Example Request**

https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/clusters/194408fa-9d41-435c-a140-91edcf5fe519/eips/ab60b4ac-10e3-4d83-bccd-9a6a1b0ba983

## **Example Response**

None

#### **Status Code**

Status Code	Description
200	The EIP is successfully bound to the cluster.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.9.8 Unbinding an EIP from a Cluster

#### **Function**

This API is used to unbind an EIP from a cluster.

#### URI

DELETE /v2/{project\_id}/clusters/{cluster\_id}/eips/{eip\_id}

**Table 5-549** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.
eip_id	Yes	String	EIP bound to the cluster

## **Request Parameters**

None

## **Response Parameters**

None

 $https://\{Endpoint\}/v2/4cf650fd46704908aa071b4df2453e1e/clusters/194408fa-9d41-435c-a140-91edcf5fe519/eips/ab60b4ac-10e3-4d83-bccd-9a6a1b0ba983$ 

## **Example Response**

None

#### **Status Code**

Status Code	Description
200	The EIP is unbound from the cluster successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.9.9 Querying Connections**

## **Function**

This API is used to query connections.

#### URI

GET /v1/{project\_id}/clusters/{cluster\_id}/endpoints

Table 5-550 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-551** Query parameters

Parameter	Mandatory	Туре	Description
inst_type	No	String	Instance type:
			• dws: data warehouse
			dws-cn: CN data warehouse

## **Request Parameters**

None

## **Response Parameters**

**Table 5-552** Response body parameter

Parameter	Туре	Description
public_endpoi nts	PublicEndpoi ntResponse object	Public network connection information about the cluster. If the parameter is not specified, the public network connection information is not used by default.
private_endpo ints	PrivateEndpo intResponse object	Private network connection information about the cluster.
vpc_endpoint_ service	VpcEndPoint ServiceRespo nse object	Cluster VPC connection information
public_ip_info s	Array of PublicIpInfoR esponse objects	Cluster instance connection information

**Table 5-553** PublicEndpointResponse

Parameter	Туре	Description
ip	String	Public IP address
ip_id	String	Public IP address ID
port	Integer	Port
ip_bandwidth	String	Bandwidth

Parameter	Туре	Description
domain_name	String	Public domain name
domain_name _suffix	String	Suffix of the public domain name
zone_name	String	Region name
domain_name _ttl	Integer	Domain name TTL
domain_name _status	String	Domain status
enabled	Boolean	Availability
ip_status	String	IP address status

 Table 5-554
 PrivateEndpointResponse

Parameter	Туре	Description
ip	String	Private IP address
port	Integer	Port
domain_name	String	Private network domain name
domain_name _suffix	String	Suffix of the private domain name
zone_name	String	Region name
domain_name _ttl	Integer	Domain name TTL
domain_name _status	String	Domain status
failed_reason	String	Cause of failure
elb_ip	String	ELB IP address
bind_manage _ip_status	Integer	Status of the bound management IP address

 Table 5-555
 VpcEndPointServiceResponse

Parameter	Туре	Description
id	String	ID
service_name	String	Service name

Parameter	Туре	Description
status	String	Running status

#### Table 5-556 PublicIpInfoResponse

Parameter	Туре	Description
instance_id	String	Instance ID
instance_nam e	String	Instance name
id	String	ID
address	String	Address
status	String	Status
bandwidth_siz e	String	Bandwidth

#### **Example Request**

 $\label{lem:general:g$ 

### **Example Response**

```
"public_endpoints" : {
 '"ip" : "192.168.15.18",
 "ip_id": "93cb2c86-a598-48ca-8c2c-0389f4b78511",
 "port" : 8000,
 "ip_bandwidth": 300,
"domain_name" : "demo_domain_name",
"domain_name_suffix" : "demo_domain_name_suffix",
 "zone_name" : "d12.huaweiclouds.com",
 "domain_name_ttl" : 0,
 "domain_name_status": "ACTIVE",
"enabled" : true,
"ip_status" : null
"private_endpoints" : {
 "ip": "192.168.15.19",
 "port": 8000,
 "domain_name": "demo_domain_name",
"domain_name_suffix" : "demo_domain_name_suffix",
"zone_name" : "d13.huaweiclouds.com",
 "domain_name_ttl" : 0,
 "domain_name_status" : null,
 "failed_reason" : null,
 "elb_ip" : null,
 "bind_manage_ip_status": 1
"vpc_endpoint_service" : {
"id": "73cb2c86-a598-48ca-8c2c-0389f4b78518",
```

```
"service_name": "test_service_name",
    "status": null
},
"public_ip_infos": [ {
    "instance_id": "83cb2c86-a598-48ca-8c2c-0389f4b78511",
    "instance_name": "test_name-dws-cn-cn-1-1",
    "id": "93cb2c86-a598-48ca-8c2c-0389f4b78512",
    "address": null,
    "status": null,
    "bandwidth_size": 2
} ]
```

#### **Status Code**

Status Code	Description
200	Connection information queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.9.10 Querying ELB Information

### **Function**

This API is used to query ELB information.

#### **URI**

GET /v2/{project\_id}/elbs

#### **Table 5-557** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

**Table 5-558** Query parameters

Parameter	Mandatory	Туре	Description
vpc_id	Yes	String	VPC ID
subnet_id	Yes	String	Subnet ID
limit	No	Integer	Number of records to be queried
offset	No	Integer	Offset

## **Request Parameters**

None

## **Response Parameters**

**Table 5-559** Response body parameters

Parameter	Туре	Description
elbs	Array of ClusterElbInf o objects	ELB list
count	Integer	Total number

Table 5-560 ClusterElbInfo

Parameter	Туре	Description	
id	String	ELB ID	
cluster_id	String	Cluster ID	
name	String	ELB name	
description	String	ELB description	
vip_address	String	ELB address	
vip_subnet_id	String	Subnet ID	
tenant_id	String	Tenant ID	
type	String	ELB type. Value:	
		Internal: dedicated	
		External: shared	

Parameter	Туре	Description
admin_state_	Boolean	ELB status. Value:
up		ACTIVE: in use
		PENDING_CREATE: being created
		ERROR: Another forwarding policy of the same listener has the same forwarding rule.
bandwidth	Integer	Binding status:
		• 0: not bound
		• <b>1</b> : bound
vpc_id	String	VPC ID

GET https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/elbs?vpc\_id=02bf1f0c-d2bd-4997-9222-595e04def32&subnet\_id=55f2bc88-79ff-4175-b337-654201293620&limit=1&offset=10

#### **Example Response**

```
"elbs" : [ {
  "id" : "13cb2c86-a598-48ca-8c2c-0389f4b78539",
 "cluster_id" : null,
 "name" : "elb-e562",
 "description" : null,
 "vip_address": "192.168.201.255",
 "vip_subnet_id" : null,
 "tenant_id": null,
 "type" : null,
 "admin_state_up" : true,
 "bandwidth" : 0,
 "vpc_id": "43cb2c86-a598-48ca-8c2c-0389f4b78549"
}, {
"id": "75cb2c86-a598-48ca-8c2c-0389f4b78595",
 "cluster_id": null,
 "name" : "elb-e563",
 "description" : null,
"vip_address" : "192.168.203.255",
"vip_subnet_id" : null,
 "tenant_id" : null,
 "type" : null,
 "admin_state_up" : true,
 "bandwidth" : 0,
 "vpc_id": "43cb2c86-a598-48ca-8c2c-0389f4b78549"
}],
"count" : 10
```

#### **Status Code**

Status Code	Description
200	ELB information is queried.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.10 Tag Management

# 5.10.1 Querying Tags in a Project

## **Function**

This API is used to query the tag list of a project.

#### **URI**

GET /v1.0/{project\_id}/tags

Table 5-561 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

## **Request Parameters**

None

## **Response Parameters**

Table 5-562 Response body parameters

Parameter	Туре	Description
tags	Array of ProjectTag objects	Tag list objects

#### Table 5-563 ProjectTag

Parameter	Туре	Description
key	String	Key. A tag key can contain a maximum of 128 characters. It cannot be an empty string or start or end with a space. Only letters, digits, hyphens (-), and underscores (_) are allowed. It cannot contain the following characters: =*<> /
values	Array of strings	Value. A tag value can contain a maximum of 255 characters, which can be an empty string. It cannot start or end with a space. Only letters, digits, hyphens (-), and underscores (_) are allowed. It cannot contain the following characters: =*<> /

## **Example Request**

GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/tags

## **Example Response**

#### Status code: 200

The project tags are queried successfully.

```
{
    "tags" : [ {
        "key" : "key",
        "values" : [ "value-1", "value-2" ]
    } ]
}
```

Status Code	Description
200	The project tags are queried successfully.
400	Request error.
401	Authentication failed.

Status Code	Description
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.10.2 Querying Cluster Tags**

## **Function**

This API is used to query the tags of a specified cluster.

#### **URI**

GET /v1.0/{project\_id}/clusters/{cluster\_id}/tags

Table 5-564 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

None

## **Response Parameters**

**Table 5-565** Response body parameters

Parameter	Туре	Description
tags	Array of ResourceTag objects	Tag list

Table 5-566 ResourceTag

Parameter	Туре	Description
key	String	Tag key
value	String	Tag value

 $\label{lem:GET https://Endpoint} $$ GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/tags} $$$ 

### **Example Response**

#### Status code: 200

The cluster tags are queried successfully.

```
{
    "tags" : [ {
        "key" : "key",
        "value" : "value"
    } ]
```

#### **Status Code**

Status Code	Description
200	The cluster tags are queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.10.3 Adding Tags in Batches**

#### **Function**

This API is used to add tags to a cluster in batches.

#### **URI**

POST /v1.0/{project\_id}/clusters/{cluster\_id}/tags/batch-create

Table 5-567 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

**Table 5-568** Request body parameters

Parameter	Mandatory	Туре	Description
tags	Yes	Array of BatchCreateR esourceTag objects	Tag list

Table 5-569 BatchCreateResourceTag

Parameter	Mandatory	Туре	Description
key	Yes	String	Tag key Minimum length: 1 Maximum length: 128
value	Yes	String	Tag value.  Minimum length: 0  Maximum length: 255

## **Response Parameters**

None

## **Example Request**

Add tags whose key is key and value is value in batches:

```
POST https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/b5c45780-1006-49e3-b2d5-b3229975bbc7/tags/batch-create {
    "tags": [
```

### **Example Response**

None

#### **Status Code**

Status Code	Description
200	Tags are added in batches.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.10.4 Deleting Tags in Batches**

## **Function**

This API is used to batch delete tags from a specified cluster.

#### URI

POST /v1.0/{project\_id}/clusters/{cluster\_id}/tags/batch-delete

Table 5-570 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.

## **Request Parameters**

**Table 5-571** Request body parameters

Parameter	Mandatory	Туре	Description
tags	Yes	Array of BatchDeleteR esourceTag objects	Tag list

#### Table 5-572 BatchDeleteResourceTag

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

#### **Response Parameters**

None

## **Example Request**

Delete tags whose key is **key** and value is **value** in batches:

## **Example Response**

None

Status Code	Description
200	Tags are deleted in batches.
400	Request error.
401	Authentication failed.

Status Code	Description
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.11 Quota Management

# **5.11.1 Querying Resource Quotas**

#### **Function**

This API is used to query the GaussDB(DWS) resource quotas of a tenant.

#### **URI**

GET /v1.0/{project\_id}/quotas

Table 5-573 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

## **Request Parameters**

None

## **Response Parameters**

**Table 5-574** Response body parameter

Parameter	Туре	Description
quotas	QuotasResou rces object	Quota list objects

#### Table 5-575 QuotasResources

Parameter	Туре	Description
resources	Array of QuotasResou rce objects	Resource list objects

#### Table 5-576 QuotasResource

Parameter	Туре	Description	
type	String	Project resource type	
used	String	Number of used resources	
quota	Integer	Resource quota	
unit	Integer	Resource measurement unit	

## **Example Request**

GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/quotas

## **Example Response**

#### Status code: 200

Resource quotas are queried.

```
"quotas" : {
  "resources" : [ {
   "type" : "instances",
"used" : "3",
    "quota": "100",
   "unit" : "null"
 }, {
   "type" : "core",
"used" : "12",
"quota" : "100",
   "unit" : "null"
 }, {
   , t
"type" : "ram",
"used" : "24",
    "quota" : "1000",
"unit" : "GB"
 }, {
    "type" : "disk",
   "used" : "6",
"quota" : "100",
    "unit" : "null"
"type": "disk_capacity",
"used": "600",
"quota": "1000",
"unit": "GB"
 }]
```

#### **Status Code**

Status Code	Description
200	Resource quotas are queried.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.12 DR Management

# 5.12.1 Creating a DR Task

## **Function**

This API is used to create a DR task.

#### **URI**

POST /v2/{project\_id}/disaster-recoveries

Table 5-577 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

## **Request Parameters**

**Table 5-578** Request body parameters

Parameter	Mandatory	Туре	Description
disaster_recov ery	Yes	DisasterReco veryReq object	DR objects

Table 5-579 DisasterRecoveryReq

Parameter	Mandatory	Туре	Description
name	Yes	String	DR task name, which consists 4 to 64 case-insensitive characters. The value must start with a letter and only letters, digits, hyphens (-), and underscores (_) are allowed.
dr_type	Yes	String	DR type, which contains the AZ it is in.
dr_sync_perio d	Yes	String	Synchronization period. The value ranges from 1 to 3000. Currency Unit  Minute (m) Hour (H) Day (d)
primary_clust er_id	Yes	String	ID of the primary cluster
standby_clust er_id	Yes	String	ID of the standby cluster
primary_obs_ bucket	No	String	OBS bucket of the primary cluster
standby_obs_ bucket	No	String	OBS bucket of the standby cluster

## **Response Parameters**

**Table 5-580** Response body parameters

Parameter	Туре	Description
disaster_recovery	<b>DisasterRecovery</b> object	DR objects

**Table 5-581** DisasterRecovery

Parameter	Туре	Description
id	String	DR ID

create a cross-AZ DR instance named **test\_dr4** and set the data synchronization interval to 5 minutes, where the primary cluster ID is **3ef5daaa**-**d017-4354-80b3-8a69caf2e09** and the standby cluster ID is **e7fed7fe-f4a7-499a-afed-1fdb5c1978cb**:

```
POST https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/disaster-recoveries

{
    "disaster_recovery": {
        "name": "test_dr4",
        "dr_type": "az",
        "primary_cluster_id": "3ef5daaa-d017-4354-80b3-8a69caf2e094",
        "standby_cluster_id": "e7fed7fe-f4a7-499a-afed-1fdb5c1978cb",
        "dr_sync_period": "5m",
        "primary_obs_bucket": "",
        "standby_obs_bucket": "",
        "standby_obs_bucket": ""
}
```

### **Example Response**

#### Status code: 200

The DR task is created successfully.

```
{
    "disaster_recovery" : {
        "id" : "aa1a688b-4bde-44ec-931f-bd77042841fb"
    }
}
```

#### **Status Code**

Status Code	Description
200	The DR task is created.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.12.2 Enabling DR

#### **Function**

This interface is used to start DR operations. You can start a DR task that is in the **Not started/Startup failed/Stopped** state. After you start the DR task, you cannot perform operations, including restoration, scale-out, upgrade, restart, node

replacement, and password update, on the production cluster or DR cluster. Backup is also not allowed on the DR cluster. Exercise caution when performing this operation. After the DR is started, if the DR cluster is running properly and is in the recovery state, the cluster in this state consumes costs. Only DWS 2.0 clusters are supported.

#### URI

POST /v2/{project\_id}/disaster-recovery/{disaster\_recovery\_id}/start

Table 5-582 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
disaster_recov ery_id	Yes	String	DR ID

### **Request Parameters**

None

### **Response Parameters**

Status code: 200

**Table 5-583** Response body parameters

Parameter	Туре	Description
disaster_recov ery	DisasterReco veryld object	DR ID object

 Table 5-584
 DisasterRecoveryId

Parameter	Туре	Description
id	String	DR ID

### **Example Request**

 $POST\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/disaster-recovery/e59d6b86-9072-46eba996-13f8b44994c1/start$ 

### **Example Response**

#### Status code: 200

The DR enabling request is successfully delivered.

```
{
    "disaster_recovery" : {
        "id" : "e59d6b86-9072-46eb-a996-13f8b44994c1"
    }
}
```

#### **Status Code**

Status Code	Description
200	The DR enabling request is successfully delivered.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.12.3 Querying the DR List

### **Function**

This API is used to query the DR list. Only DWS 2.0 clusters are supported.

#### **URI**

GET /v2/{project\_id}/disaster-recoveries

#### Table 5-585 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

### **Request Parameters**

Status code: 200

Table 5-586 Response body parameter

Parameter	Туре	Description
disaster_recov ery	Array of DisasterReco very objects	DR list

Table 5-587 DisasterRecovery

Parameter	Туре	Description
id	String	DR ID
name	String	DR name
dr_type	String	DR type
status	String	DR status.
primary_clust er_id	String	ID of the primary cluster
primary_clust er_name	String	Name of the primary cluster
standby_clust er_id	String	ID of the standby cluster
standby_clust er_name	String	Name of the standby cluster
primary_clust er_role	String	Role of the primary cluster
standby_clust er_role	String	Role of the standby cluster
primary_clust er_status	String	Status of the primary cluster
standby_clust er_status	String	Status of the standby cluster
primary_clust er_region	String	Region of the primary cluster
standby_clust er_region	String	Region of the standby cluster
primary_clust er_project_id	String	Project ID of the primary cluster

Parameter	Туре	Description
standby_clust er_project_id	String	Project ID of the standby cluster
last_disaster_t ime	String	Time of the last DR synchronization
start_time	String	Start time
create_time	String	Creation time

GET https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/disaster-recoveries

### **Example Response**

```
"disaster_recovery": [
   "id": "9956ee8a-2f5b-4d76-8c18-4115e2393433",
  "name": "test-dr-1026-3", "status": "stop_failed",
   "dr_type": "az",
   "primary_cluster_id": "f6dc1f82-8d66-4750-a5d2-569d3f72cf61",
   "primary_cluster_name": "dr_2"
   "standby_cluster_id": "fb34f3f3-f86a-446b-9f2f-e0581ba55e73",
   "standby_cluster_name": "dr_1",
  "primary_cluster_role": "primary", "standby_cluster_role": "standby",
   "primary_cluster_status": "waiting",
  "standby_cluster_status": "waiting",
"primary_cluster_region": "az1.dc1",
   "standby_cluster_region": "az1.dc1",
  "primary_cluster_project_id": "0536cdee2200d5912f7cc00b877980f1", "standby_cluster_project_id": "0536cdee2200d5912f7cc00b877980f1",
   "last_disaster_time": "2022-10-28T02:34:16",
   "start_time": null,
   "create_time": "2022-10-26T12:04:10"
   "id": "a85dee93-cd49-4c52-a44b-c50b24f6caae",
   "name": "test_dis",
   "status": "creating",
   "dr_type": "az",
   "primary_cluster_id": "3ef5daaa-d017-4354-80b3-8a69caf2e094",
   "primary_cluster_name": "t1031_02",
   "standby_cluster_id": "a07cb2f7-b17e-4d95-923b-a33d0c884d37",
   "standby_cluster_name": "t1028_02",
  "primary_cluster_role": "primary"
"standby_cluster_role": "standby"
   "primary_cluster_status": null,
   "standby_cluster_status": null,
   "primary_cluster_region": "az1.dc1",
   "standby_cluster_region": "az1.dc1",
  "primary_cluster_project_id": "0536cdee2200d5912f7cc00b877980f1", "standby_cluster_project_id": "0536cdee2200d5912f7cc00b877980f1",
   "last_disaster_time": null,
   "start_time": null,
   "create_time": "2022-10-31T06:17:00"
```

#### **Status Code**

Status Code	Description
200	The DR list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.12.4 Querying DR Details

### **Function**

This API is used to query DR details.

#### **URI**

GET /v2/{project\_id}/disaster-recovery/{disaster\_recovery\_id}

**Table 5-588** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
disaster_recov ery_id	Yes	String	DR ID

### **Request Parameters**

None

### **Response Parameters**

Status code: 200

Table 5-589 Response body parameter

Parameter	Туре	Description
disaster_recov ery	DisasterReco veryQueryRes p object	Response body for querying DR information.

Table 5-590 DisasterRecoveryQueryResp

Parameter	Туре	Description
id	String	DR ID
name	String	DR name
dr_type	String	DR type
status	String	DR status.
primary_clust er	DisasterReco veryCluster object	Primary cluster
standby_clust er	DisasterReco veryCluster object	Standby cluster
dr_sync_perio d	String	DR synchronization period
start_time	String	DR start time
create_time	String	DR creation time

Table 5-591 DisasterRecoveryCluster

Parameter	Туре	Description	
id	String	ID of the DR cluster	
name	String	Name of the DR cluster	
cluster_az	String	AZ of the DR cluster	
role	String	Role of the DR cluster	
region	String	Region where the DR cluster is located	
status	String	Status of the DR cluster	
progress	String	DR progress	

Parameter	Туре	Description
last_success_ti me	String	Last DR time
obs_bucket_n ame	String	OBS bucket name

 $https: // Endpoint \} / v2/0536 cdee 2200 d5912 f7cc 00b877980 f1/disaster-recovery/b303b78d-438c-41dd-aaf6-c98ee a1fc 2a6$ 

### **Example Response**

#### Status code: 200

The DR information is queried successfully.

```
"disaster_recovery": {
   "id": "b303b78d-438c-41dd-aaf6-c98eea1fc2a6",
   "name": "dws-it-02",
  "status": "running",
   "dr_type": "region",
   "primary_cluster": {
     "id": "3de21046-e65e-4fcf-86bf-583115b39c27",
     "name": "dws-203-primary",
     "cluster_az": "az1.dc1",
     "role": "primary",
     "region": "az1.dc1",
     "status": "waiting",
"progress": "100",
     "last_success_time": "2023-04-29T06:39:56",
     "obs_bucket_name": null
   "standby_cluster": {
     "id": "5d946c51-9ffa-49e3-9129-2bea4d23d3fd",
     "name": "dws-205-standby",
     "cluster_az": null,
     "role": "standby",
     "region": "az1.dc1",
     "status": "waiting",
     "progress": "100",
     "last_success_time": "2023-04-29T06:39:56",
     "obs_bucket_name": null
  "dr_sync_period": "3H",
  "start_time": "2023-04-28T09:23:38",
  "create_time": "2023-04-28T08:51:54"
 }
}
```

#### **Status Code**

Status Code	Description
200	The DR information is queried successfully.

Status Code	Description
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.12.5 Querying DR Progress**

### **Function**

This API is used to query the cluster DR progress. (The returned parameter values are for reference only. The actual values need to be analyzed based on service running.)

#### URI

GET /v1/{project\_id}/disaster-recovery/{disaster\_recovery\_id}/show-progress

Table 5-592 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
disaster_recov ery_id	Yes	String	DR ID

### **Request Parameters**

Table 5-593 Response body parameter

Parameter	Туре	Description
disaster_recov ery_progress	ClusterDisast erRecovery Object	Cluster DR details.

Table 5-594 ClusterDisasterRecovery

Parameter	Туре	Description
primary_clust er	ClusterRecov eryProgress Object	DR progress of the primary cluster
standby_clust er	ClusterRecov eryProgress Object	DR progress of the standby cluster
latest_barrier_ time	String	Time when the disaster occurs
last_recovery_ spend	Long	Time consumed for restoring the previous backup set, in seconds.
recovery_poin t_object	Long	Target data recovery time, in seconds.
recovery_time _object	Long	Target service recovery time, in seconds.

**Table 5-595** ClusterRecoveryProgress

Parameter	Туре	Description
key	String	DR ID.
action_type	String	Action.
unrestore_key s	String	ID of the backup set to be restored.
action_start_ti me	String	Start time of the current action.
action_end_ti me	String	End time of the current action.

GET https://{Endpoint}/v1/89cd04f168b84af6be287f71730fdb4b/disaster-recovery/2a4d0f86-67cd-408a-8b66-017454fb7793/show-progress

#### **Example Response**

Status code: 200

Cluster DR details are queried successfully.

```
{
    "disaster_recovery_progress":{
        "primary_cluster": {
            "key": "20230327_201637",
            "action_type": "Backup",
            "unrestore_keys": "N/A",
            "action_start_time": "2023-03-27 20:16:34",
            "action_end_time": "2023-03-27 20:17:00"
        },
        "standby_cluster": {
            "key": "20230327_201637",
            "action_type": "Restore",
            "unrestore_keys": "20230327_201637,20230327_201638,20230327_201639",
            "action_start_time": "2023-03-27 20:18:27",
            "action_end_time": "2023-03-27 20:24:40"
            },
            "latest_barrier_time": "2023-03-28 10:24:40",
            "last_recovery_spend": 30,
            "recovery_point_object": 50886,
            "recovery_time_object": 50886,
            "recovery_time_object": 600
        }
}
```

#### **Status Code**

Status Code	Description
200	The DR list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.12.6 Querying the List of Available DR Clusters

#### **Function**

This API is used to query the list of available DR clusters.

#### **URI**

GET /v2/{project\_id}/disaster-recovery-clusters

**Table 5-596** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

### **Table 5-597** Query parameters

Parameter	Mandatory	Туре	Description
primary_clust er_id	Yes	String	ID of the primary cluster
primary_spec_ id	No	String	ID of the primary cluster.
primary_clust er_dn_num	No	String	Number of DNs in the primary cluster.
standby_regio n	No	String	Region where the standby cluster is located.
standby_proje ct_id	No	String	Project ID of the standby cluster
standby_az_c ode	Yes	String	AZ where the standby cluster is located.
dr_type	No	String	DR type.
datastore_typ e	No	String	Data warehouse type.
datastore_ver sion	No	String	Data warehouse version.

### **Request Parameters**

None

### **Response Parameters**

Status code: 200

**Table 5-598** Response body parameter

Parameter	Туре	Description
disaster_recov ery_clusters	Array of DisasterReco veryClusterV o objects	List of available DR clusters.

#### Table 5-599 DisasterRecoveryClusterVo

Parameter	Туре	Description
id	String	Cluster ID
name	String	Cluster name

### **Example Request**

https://{Endpoint}/v2/0536cdee2200d5912f7cc00b877980f1/disaster-recovery-clusters? primary\_cluster\_id=3de21046-e65e-4fcf-86bf-583115b39c27&standby\_az\_code=az1.dc1a&standby\_region=&dr\_type=&standby\_project\_id=

### **Example Response**

#### Status code: 200

Request succeeded.

```
{
    "disaster_recovery_clusters" : [ ]
}
```

#### **Status Code**

Status Code	Description
200	Request succeeded.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.12.7 Updating DR Configurations

### **Function**

This API is used to update DR configurations. Only DR tasks in the **Not started** or **Stopped** state can be modified. The new configuration takes effect after DR is restarted.

#### URI

PUT /v2/{project\_id}/disaster-recovery/{disaster\_recovery\_id}

Table 5-600 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
disaster_recov ery_id	Yes	String	DR ID

### **Request Parameters**

**Table 5-601** Request body parameters

Parameter	Mandatory	Туре	Description
disaster_recov ery	No	UpdateDisast erRecoveryRe q object	DR configurations

Table 5-602 UpdateDisasterRecoveryReq

Parameter	Mandatory	Туре	Description
dr_sync_perio d	No	String	DR synchronization period
send_request	No	Integer	Whether to send a request.  Minimum value: 0  Maximum value: 1
primary_to_ro le	No	String	Role of the primary cluster
reset_action	No	String	DR action

Parameter	Mandatory	Туре	Description
standby_to_ro le	No	String	Role of the standby cluster
dr_status	No	String	DR status

Status code: 200

**Table 5-603** Response body parameter

Parameter	Туре	Description
disaster_recov ery	DisasterReco veryld object	DR ID object

#### Table 5-604 DisasterRecoveryId

Parameter	Туре	Description
id	String	DR ID

### **Example Request**

Change the cluster DR synchronization period to 3 hours, the primary cluster to **primary**, the standby cluster to **standby**, and the DR action to **DR\_RUNNING**:

```
https://{Endpoint}/v2/0536cdee2200d5912f7cc00b877980f1/disaster-recovery/b303b78d-438c-41dd-aaf6-c98eea1fc2a6

{
    "disaster_recovery" : {
        "dr_sync_period" : "3H",
        "send_request" : 0,
        "primary_to_role" : "primary",
        "standby_to_role" : "standby",
        "reset_action" : "DR_RUNNING",
        "dr_status" : "running"
    }
}
```

### **Example Response**

Status code: 200

DR configuration updated successfully.

```
{
  "disaster_recovery" : {
  "id" : "xxxx"
  }
}
```

#### **Status Code**

Status Code	Description
200	DR configuration updated.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

### 5.12.8 Switching to the DR Cluster

#### **Function**

This interface is used to perform DR switchover. To perform a switchover when the DR cluster is running properly, click **Switch to DR Cluster**. You can perform a DR switchover when the DR task is in the **Running** state. During a switchover, the original production cluster is not available. Recovery Point Object (RPO) refers to the point in time to which a system and data must be restored after a disaster occurs. When the production cluster is in the Available state, the RPO is 0. When the production cluster is unavailable, RPO=0 cannot be ensured. However, data can be restored to at least the latest DR success time of the production cluster. Only DWS 2.0 clusters are supported.

#### **URI**

POST /v2/{project\_id}/disaster-recovery/{disaster\_recovery\_id}/switchover

Table 5-605 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
disaster_recov ery_id	Yes	String	DR ID

### **Request Parameters**

Status code: 200

**Table 5-606** Response body parameter

Parameter	Туре	Description
disaster_recov ery	DisasterReco veryld object	DR ID object

#### Table 5-607 DisasterRecoveryId

Parameter	Туре	Description
id	String	DR ID

### **Example Request**

 $POST\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/disaster-recovery/e59d6b86-9072-46eba996-13f8b44994c1/switchover$ 

### **Example Response**

#### Status code: 200

The DR switchover task is successfully delivered.

```
{
    "disaster_recovery" : {
        "id" : "e59d6b86-9072-46eb-a996-13f8b44994c1"
    }
}
```

### **Status Code**

Status Code	Description
200	The DR switchover task is successfully delivered.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.12.9 Switching to the DR Cluster Upon Production Cluster Exceptions

#### **Function**

This interface is used to perform an active/standby switchover when a DR exception occurs. To perform a switchover when the DR cluster is abnormal or the production cluster is faulty, click **Exception Switchover**. DR exception switchover is supported only by clusters of version 8.1.2 or later. Before a switchover, check the latest synchronization time in the DR cluster. The DR cluster will serve as a production cluster after an abnormal switchover, but the data that failed to be synchronized from the original production cluster to the DR cluster will not exist in the DR cluster. Only DWS 2.0 clusters are supported.

#### **URI**

POST /v2/{project\_id}/disaster-recovery/{disaster\_recovery\_id}/failover

Table 5-608 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
disaster_recov ery_id	Yes	String	DR ID

#### **Request Parameters**

None

### **Response Parameters**

Status code: 200

**Table 5-609** Response body parameters

Parameter	Туре	Description
disaster_recov ery	DisasterReco veryld object	DR ID object

Table 5-610 DisasterRecoveryId

Parameter	Туре	Description
id	String	DR ID

 $POST\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/disaster-recovery/e59d6b86-9072-46eba996-13f8b44994c1/failover$ 

### **Example Response**

Status code: 200

The cluster switchover task is successfully delivered.

```
{
    "disaster_recovery" : {
        "id" : "e59d6b86-9072-46eb-a996-13f8b44994c1"
      }
}
```

#### **Status Code**

Status Code	Description
200	The cluster switchover task is successfully delivered.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.12.10 Performing Cluster Restoration**

#### **Function**

This API is used to perform DR operations after an active/standby switchover is performed and the standby cluster is restored to the available state. DR is supported only by clusters of 8.1.2 or later. During DR recovery, data in the DR cluster will be deleted, and the DR relationship will be re-established with the new production cluster. Only DWS 2.0 clusters are supported.

#### **URI**

POST /v2/{project\_id}/disaster-recovery/{disaster\_recovery\_id}/recovery

Table 5-611 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
disaster_recov ery_id	Yes	String	DR ID

### **Request Parameters**

None

### **Response Parameters**

Status code: 200

**Table 5-612** Response body parameters

Parameter	Туре	Description
disaster_recov ery	DisasterReco veryld object	DR ID object

Table 5-613 DisasterRecoveryId

Parameter	Туре	Description
id	String	DR ID

### **Example Request**

 $POST\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/disaster-recovery/e59d6b86-9072-46eba996-13f8b44994c1/recovery$ 

### **Example Response**

Status code: 200

The DR restoration task is successfully delivered.

```
{
   "disaster_recovery" : {
    "id" : "e59d6b86-9072-46eb-a996-13f8b44994c1"
```

} }

#### **Status Code**

Status Code	Description
200	The DR restoration task is successfully delivered.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.12.11 Disabling DR

#### **Function**

This API is used to stop DR operations. Only DR tasks in the **Running** or **Stop failed** state can be stopped. Data cannot be synchronized after a DR task is stopped. Only DWS 2.0 clusters are supported.

#### URI

POST /v2/{project\_id}/disaster-recovery/{disaster\_recovery\_id}/pause

Table 5-614 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
disaster_recov ery_id	Yes	String	DR ID

### **Request Parameters**

Status code: 200

**Table 5-615** Response body parameter

Parameter	Туре	Description
disaster_recov ery	DisasterReco veryld object	DR ID object

#### Table 5-616 DisasterRecoveryId

Parameter	Туре	Description
id	String	DR ID

### **Example Request**

 $POST\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/disaster-recovery/e59d6b86-9072-46eba996-13f8b44994c1/pause$ 

### **Example Response**

#### Status code: 200

The DR disabling request is successfully delivered.

```
{
    "disaster_recovery" : {
        "id" : "e59d6b86-9072-46eb-a996-13f8b44994c1"
    }
}
```

### **Status Code**

Status Code	Description
200	The DR disabling request is successfully delivered.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.12.12 Checking the DR Name

### **Function**

This API is used to query whether a DR name is available.

#### URI

GET /v2/{project\_id}/disaster-recovery/check-name

#### **Table 5-617** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

#### Table 5-618 Query parameters

Parameter	Mandatory	Туре	Description
dr_name	Yes	String	DR name.
type	No	String	DR type.
standby_regio n	No	String	Region where the standby cluster is located.
standby_proje ct_id	No	String	ID of the project to which the standby cluster belongs.

### **Request Parameters**

None

### **Response Parameters**

None

### **Example Request**

 $https://\{Endpoint\}/rds/v2/0536cdee2200d5912f7cc00b877980f1/disaster-recovery/check-name? dr name=dws-it$ 

### **Example Response**

#### **Status Code**

Status Code	Description
200	The DR name is checked successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.12.13 Deleting a DR Task

#### **Function**

This API is used to delete a DR operation. You can delete a DR task when **DR Status** is **Creation failed**, **Not started**, **Startup failed**, **Stopped**, **Stop failed**, or **Abnormal**. Data cannot be synchronized after a DR task is deleted, and the deleted task cannot be restored. Only DWS 2.0 clusters are supported.

#### URI

DELETE /v2/{project\_id}/disaster-recovery/{disaster\_recovery\_id}

**Table 5-619** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
disaster_recov ery_id	Yes	String	ID

### **Request Parameters**

None

### **Response Parameters**

 $DELETE\ https://\{Endpoint\}/v2/89cd04f168b84af6be287f71730fdb4b/disaster-recovery/b5c45780-1006-49e3-b2d5-b3229975bbc7$ 

### **Example Response**

None

#### **Status Code**

Status Code	Description
200	The DR deletion request is delivered successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.13 Job Management

# **5.13.1 Querying the Job Progress**

### **Function**

This API is used to query the job progress.

#### **URI**

GET /v1.0/{project\_id}/job/{job\_id}

#### Table 5-620 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
job_id	Yes	String	Job ID

### **Request Parameters**

None

### **Response Parameters**

Status code: 200

Table 5-621 Response body parameters

Parameter	Туре	Description
job_id	String	Job ID
job_name	String	Job name
begin_time	String	Time when the job starts
end_time	String	Job end time
status	String	Job status
failed_code	String	Error code of a job failure
failed_detail	String	Job failure details
progress	String	Job progress

### **Example Request**

https://{Endpoint}/v1.0/05f2cff45100d5112f4bc00b794ea08e/job/2c9080e8845b207101845b245e1e0001

### **Example Response**

Status code: 200

Job progress

```
{
    "status" : "FAIL",
    "progress" : "9%",
    "job_id" : "2c9080e88459fa44018459fbeb600001",
    "job_name" : "ecfClusterElbCreateJob",
    "begin_time" : "2022-11-09T20:25:00",
    "end_time" : "2022-11-09T20:30:00",
    "failed_code" : "CreateELBTask-fail:DWS.0114",
    "failed_detail" : "DWS.0114:ELB private IP is not configured."
}
```

#### **Status Code**

Status Code	Description
200	Succeeded in querying the job progress.
400	Request error.

Status Code	Description
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.14 Host Monitoring**

# 5.14.1 Querying the Host Overview

### **Function**

This API is used to query the host monitoring overview.

#### **URI**

GET /v1.0/{project\_id}/dms/host-overview

#### Table 5-622 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Table 5-623 Query parameters

Parameter	Mandatory	Туре	Description
cluster_id	No	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
instance_nam e	No	String	Instance name.
limit	Yes	Integer	Number of data records. The value ranges from 1 to 2147483647.

Parameter	Mandatory	Туре	Description
offset	Yes	Integer	Data offset. Value range: 0 to 2147483646.

### **Request Parameters**

None

### **Response Parameters**

**Table 5-624** Response body parameters

Parameter	Туре	Description
[Array]	Array of HostOverviewResponse objects	Host overview list

Table 5-625 HostOverviewResponse

Parameter	Туре	Description
instance_name	String	Instance name
host_name	String	Host name.
host_stat	String	Host status. The options are as follows:  ONLINE: The device is online.  OFFLINE: The device is offline.
work_ip	String	IP address
mem_free	double	Unused memory in the system, in GB.
mem_total	double	Total memory(GB)
mem_usage	double	Memory usage (GB)
mem_cached	double	Cache memory (GB)
mem_buffer	double	Buffer memory (MB)
swap_free	double	RAM temporary storage in the swap space, in GB
swap_total	double	Total swap space (GB)

Parameter	Туре	Description
cpu_usage	double	CPU usage (%)
cpu_usage_sys	double	System CPU usage (%)
cpu_usage_usr	double	User CPU usage (%)
cpu_idle	double	Idle CPU usage (%)
cpu_iowait	double	I/O wait (%)
disk_usage_avg	double	Average disk usage (%)
disk_total	double	Total disk capacity (GB)
disk_used	double	Used disk capacity (GB).
disk_available	double	Available disk capacity (GB)
disk_io	double	Disk I/O (KB/s)
disk_io_read	double	Disk read rate (KB/s)
disk_io_write	double	Disk write rate (KB/s)
tcp_resend_rate	double	TCP protocol stack retransmission rate (%)
net_io	double	Network I/O (KB/s)

https://{Endpoint}/v1.0/05f2cff45100d5112f4bc00b794ea08e/dms/host-overview?limit=1&offset=0

### **Example Response**

Status code: 200

The host overview is queried successfully.

```
{
 "instance_name": "d30035376-dms-test07-dws-cn-cn-1-1",
 "host_name": "host-172-16-11-62",
 "host_stat": "ONLINE",
"work_ip": "172.16.106.168",
"mem_free": 1.45,
 "mem_total": 14.89,
 "mem_usage": 26.4,
 "mem_cached": 9.26,
 "mem_buffer": 249.34,
 "swap_free": 0,
 "swap_total": 0,
 "cpu_usage": 8.93,
 "cpu_usage_sys": 3.37,
 "cpu_usage_usr": 5.56,
 "cpu_idle": 90.57,
 "cpu_iowait": 0.12,
 "disk_usage_avg": 4.44,
```

```
"disk_total": 548.76,

"disk_used": 24.38,

"disk_available": 522,

"disk_io": 19.75,

"disk_io_read": 0,

"disk_io_write": 19.75,

"tcp_resend_rate": 0,

"net_io": 0

}
```

#### **Status Code**

Status Code	Description
200	The host overview is queried successfully.
204	The processing is successful, but no content is returned.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.14.2 Querying Disk Information

### **Function**

This API is used to query information about disks monitored by a host.

#### URI

GET /v1.0/{project\_id}/dms/disk

#### Table 5-626 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

**Table 5-627** Query parameters

Parameter	Mandatory	Туре	Description
cluster_id	No	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
instance_nam e	No	String	Instance name
instance_id	No	String	Instance ID
limit	Yes	Integer	Number of data records. The value ranges from 1 to 2147483647.
offset	Yes	Integer	Data offset. Value range: 0 to 2147483646.

### **Request Parameters**

None

### **Response Parameters**

**Table 5-628** Response body parameters

Parameter	Туре	Description
[Array]	Array of <b>DiskResp</b> objects	List of disks on a host

Table 5-629 DiskResp

Parameter	Туре	Description
instance_name	String	Instance name
instance_id	String	Instance ID
host_name	String	Host name
disk_name	String	Disk name
disk_type	String	Disk type (system disk, data disk, or log disk)
total	double	Total disk capacity (GB)
used	double	Used disk capacity (GB)

Parameter	Туре	Description
available	double	Available disk capacity (GB)
used_percentage	double	Disk Usage (%)
await	double	I/O wait time (ms)
svctm	double	I/O service time (ms)
util	double	I/O usage (%)
read_rate	double	Disk read rate (KB/s)
write_rate	double	Disk write rate (KB/s)

### **Example Response**

```
[
    "instance_name": "d30035376-dms-test07-dws-cn-cn-1-1",
    "instance_id": "1",
    "host_name": "host-172-16-11-62",
    "disk_name": "vda",
    "disk_type": "system",
    "total": 49,
    "used": 5.64,
    "available": 40.99,
    "used_percentage": 11.51,
    "await": 0.21,
    "svctm": 0.03,
    "util": 0.01,
    "read_rate": 0,
    "write_rate": 52.72
}
```

#### **Status Code**

Status Code	Description
200	The disk information is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.

Status Code	Description
503	The service was unavailable.

# 5.14.3 Obtaining the NIC Status

### **Function**

This API is used to obtain the NIC status monitored by a host.

### **URI**

GET /v1.0/{project\_id}/dms/net

#### Table 5-630 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

#### **Table 5-631** Query parameters

Parameter	Mandatory	Туре	Description
cluster_id	No	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.
instance_nam e	No	String	Instance name
limit	Yes	Integer	Number of data records. The value ranges from 1 to 2147483647.
offset	Yes	Integer	Data offset. Value range: 0 to 2147483646.

### **Request Parameters**

Table 5-632 Parameters in the response body

Parameter	Туре	Description
[Array]	Array of <b>NetResp</b> objects	NIC list of a host

#### Table 5-633 NetResp

Parameter	Туре	Description
virtual_cluster_id	Integer	Virtual cluster ID
ctime	Long	Query time
host_id	Integer	Host ID
host_name	String	Host name
instance_name	String	Instance name
interface_name	String	NIC name
ир	Boolean	NIC status. The value can be <b>true</b> (up) or <b>false</b> (down).
speed	Long	NIC speed (Mbps)
recv_packets	Long	Number of received packets
send_packets	Long	Number of sent packets
recv_drop	Long	Number of lost packets during reception
recv_rate	Double	Receiving rate (KB/s)
send_rate	Double	Sending Rate (KB/s)
io_rate	Double	Network speed (KB/s)

### **Example Request**

https://{Endpoint}/v1.0/05f2cff45100d5112f4bc00b794ea08e/dms/net?limit=1&offset=0

### **Example Response**

```
[
{
    "virtual_cluster_id": 23,
    "ctime": 1668071223000,
    "host_id": 34,
```

```
"host_name": "host-172-16-11-62",

"instance_name": "d30035376-dms-test07-dws-cn-cn-1-1",

"interface_name": "eth2",

"up": true,

"speed": -1,

"recv_packets": 490595835,

"send_packets": 533376765,

"recv_drop": 0,

"recv_rate": 16.35,

"send_rate": 11.71,

"io_rate": null

}
```

#### **Status Code**

Status Code	Description
200	Succeeded in obtaining the NIC status.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.14.4 Querying Performance Monitoring Metrics**

### **Function**

This API is used to obtain monitoring metrics.

#### **URI**

GET /v1.0/{project\_id}/dms/metric-data/indicators

#### Table 5-634 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

### **Request Parameters**

Status code: 200

**Table 5-635** Response body parameter

Parameter	Туре	Description
[Array]	Array of IndicatorInfo objects	Monitoring metric list

#### Table 5-636 IndicatorInfo

Parameter	Туре	Description
indicator_nam e	String	Monitoring metric name
plugin_name	String	Name of a collection module
default_collec t_rate	String	Default collection frequency
support_datas tore_version	String	Supported cluster version

### **Example Request**

https://{Endpoint}/v1.0/05f2cff45100d5112f4bc00b794ea08e/dms/metric-data/indicators

### **Example Response**

Status code: 200

Monitoring metrics obtained successfully.

```
[ {
    "indicator_name" : "cluster.cpu_usage",
    "plugin_name" : "CpuStat",
    "default_collect_rate" : "30",
    "support_datastore_version" : "8.0.0"
}, {
    "indicator_name" : "cluster.sql_probe_single",
    "plugin_name" : "SqlProbeTask",
    "default_collect_rate" : "30",
    "support_datastore_version" : "8.0.0"
} ]
```

### **Status Code**

Status Code	Description
200	Monitoring metrics obtained successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.14.5 Querying Historical Monitoring Data**

### **Function**

This API is used to query historical monitoring data.

### **URI**

GET /v1.0/{project\_id}/dms/metric-data

### Table 5-637 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

**Table 5-638** Query parameters

Parameter	Mandatory	Туре	Description
from	Yes	String	Start time
to	Yes	String	End time
function	No	String	Method to obtain values.
period	No	String	Period for obtaining values.
indicator_nam e	Yes	String	Monitoring metric name

Parameter	Mandatory	Туре	Description
dim0	Yes	String	First level
dim1	No	String	Second level

### **Request Parameters**

None

### **Response Parameters**

**Table 5-639** Response body parameter

Parameter	Туре	Description
[Array]	Array of TrendQueryDataResponseBody objects	List of historical monitoring data.

 Table 5-640
 TrendQueryDataResponseBody

Parameter	Туре	Description
query_time	Long	Query time
indicator_nam e	String	Monitoring metric name
object_id	String	ID of the monitored object
unit	String	Unit
sub_object_id	String	ID of the cluster under secondary monitoring
data_points	Array of TrendQueryD ata objects	Node data

**Table 5-641** TrendQueryData

Parameter	Туре	Description
result	String	Query result.
timestamp	Long	Timestamp

### **Example Request**

https://{Endpoint}/v1.0/05f2cff45100d5112f4bc00b794ea08e/dms/metric-data?from=1671058114000&to=1671058144000&indicator\_name=cluster.cpu\_usage&dim0=cluster\_id,fe658e95-5284-4adf-b6aa-7729b563dxxx

### **Example Response**

#### Status code: 200

```
"query_time": 1671160536504,
 "indicator_name" : "cluster cpu_usage",
 "object_id" : "fe658e95-5284-4adf-b6aa-7729b563dcb7",
 "unit" : "percentage",
 "data_points" : [ {
  "result": "10.20",
  "timestamp" : 1671058114000
  "result": "10.20",
  "timestamp" : 1671058144000
 }]
}, {
 "query_time": 1671160536504,
 "indicator_name": "cluster cpu_mem",
 "object_id": "fe658e95-5284-4adf-b6aa-7729b563dcb7",
 "unit" : "percentage",
 "data_points" : [ {
  "result": "10.20",
  "timestamp" : 1671058114000
 }, {
   "result" : "10.20",
  "timestamp" : 1671058144000
}]
}]
```

### **Status Code**

Status Code	Description
200	The historical monitoring data is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.14.6 Querying Table Skew or Dirty Page Rate Information

#### **Function**

This API is used to query the skew or dirty page rate of a table.

### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/dms/tables/statistic

**Table 5-642** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

Table 5-643 Query parameters

Parameter	Mandatory	Туре	Description
rate_type	Yes	String	Type of information to be queried. This parameter is set to a fixed value.
			• <b>skew</b> : table skew rate.
			• dirtyPage: dirty page rate
offset	Yes	Integer	Offset from which the query starts, which is greater or equal to 0.
limit	Yes	Integer	Number of records displayed per page.
order_by	No	String	Sorting field This parameter is set to a fixed value.
			• table_size: table size.
			rate: table skew rate or dirty page rate.
sort_by	No	String	Ascending or descending. This parameter is set to a fixed value.
			ASC: ascending
			DESC: descending

Parameter	Mandatory	Туре	Description
filter	No	String	Query condition. This parameter is set to a fixed value.
			• <b>db_name</b> : database name
			• schema_name: schema name
			• table_name: table name.
			• table_owner: table owner
value	No	String	Value of a query condition.

### **Request Parameters**

None

# **Response Parameters**

**Table 5-644** Response body parameters

Parameter	Туре	Description
collect_time	Long	Millisecond-level timestamp of the data collection time
data	Array of ListTablesSta tisticDto objects	List of table skew rates or dirty page rates
count	Integer	Total list size

Table 5-645 ListTablesStatisticDto

Parameter	Туре	Description
db_name	String	Database name
schema_name	String	Schema name
table_name	String	Table name
table_owner	String	Table owner
table_size	String	Table size
skew_rate	Double	Skew rate

Parameter	Туре	Description
dirty_page_rat e	Double	Dirty page rate

### **Example Request**

https://{Endpoint}/v1/{project\_id}/clusters/{cluster\_id}/dms/tables/statistic?rate\_type=dirtyPage&filter=&value=&offset=0&limit=1&order\_by=&sort\_by=ASC

### **Example Response**

#### Status code: 200

```
{
  "collect_time" : 0,
  "data" : [ {
    "db_name" : "postgres",
    "schema_name" : "pmk",
    "table_name" : "pmk_snapshot_coordinator_stat",
    "table_owner" : "Ruby",
    "table_size" : "224 KB",
    "skew_rate" : null,
    "dirty_page_rate" : 0.77
} ],
  "count" : 3
}
```

### **Status Code**

Status Code	Description
200	The table skew rate/dirty page rate is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.14.7 Querying the SQL List

### **Function**

This API is used to query the real-time SQL list.

### **URI**

POST /v2/{project\_id}/clusters/{cluster\_id}/dms/queries

**Table 5-646** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

# **Request Parameters**

**Table 5-647** Request body parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID
project_id	Yes	String	Resource Sets ID.
offset	Yes	String	Offset from which the query starts, which is greater or equal to 0.
limit	Yes	String	Number of records displayed per page
conditions	Yes	Array of ListQueriesC ondition objects	Search criteria
order_by	No	String	Sorting field
target	Yes	String	The value is fixed at db_queries.

Table 5-648 ListQueriesCondition

Parameter	Mandatory	Туре	Description
field	Yes	String	Field name
value	Yes	String	Field value

Parameter	Mandatory	Туре	Description
operator	Yes	String	Comparison mode.
			For string parameters:
			- =
			- !=
			– like
			– not like
			For int parameters:
			- =
			- !=
			- >
			- <
			- >=
			- <=
			For boolean parameters:
			- =
			- !=

### **Response Parameters**

**Table 5-649** Response body parameters

Parameter	Туре	Description
code	Integer	Response code
msg	String	Response message
data	ListQueriesD ata object	Response data
count	Integer	Total records

Table 5-650 ListQueriesData

Parameter	Туре	Description
queries	Array of ListQueriesDt o objects	Queried data object list
status	ListQueriesSt atus object	Statistical data

Table 5-651 ListQueriesDto

Parameter	Туре	Description
virtual_cluster _id	Integer	Virtual cluster ID
ctime	Long	Collection time
pid	String	Session ID
inst_name	String	Instance name
waiting	Boolean	Whether the backend is currently waiting on a lock. If yes, the value is <b>true</b> .
enqueue	String	Workload management resource status
warning	String	Warnings related to SQL self-diagnosis and tuning
query	String	Query statement
lane	String	Fast or slow lane.
db_name	String	Database name
priority	String	Priority of a job in the resource pool. The value can be 1, 2, 4, or 8 (rush, high, medium, or low).
query_id	String	Internal query_id used for statement execution
query_band	String	Job type, which can be set using the guc parameter <b>query_band</b> . The default value is a null string.
job_name	String	The value is obtained from the <b>query_band</b> field. The position is 0.
job_inst	String	The value is obtained from the <b>query_band</b> field. The position is 1.
user_name	String	Username used for connecting to the backend
application_n ame	String	Name of the application that is connected to the backend.
client_address	String	IP address of the client connected to this backend.
client_hostna me	String	Host name of the client.
client_port	String	TCP port number used by a client to communicate with the backend

Parameter	Туре	Description
start_time	Long	Time when a statement starts to be executed
block_time	Long	Block time before the statement is executed. The unit is ms.
duration	Long	Duration that a statement has been executed. The unit is ms.
estimate_total _time	Long	Estimated execution time of a statement. The unit is ms.
estimate_left_ time	Long	Estimated remaining time of statement execution. The unit is ms.
resource_pool	String	Resource pool used by the user
control_group	String	Cgroup used by the statement.
min_peak_me mory	Integer	Minimum memory peak of a statement across all DNs. The unit is MB.
max_peak_me mory	Integer	Maximum memory peak of a statement across all DNs. The unit is MB.
average_peak _memory	Integer	Average memory usage during statement execution. The unit is MB.
memory_skew _percent	Integer	Memory usage skew of a statement among DNs.
estimate_me mory	Integer	Estimated memory used by a statement. The unit is MB.
spill_info	String	Information about the statement spilling to disks on all DNs.
min_spill_size	Integer	Minimum spilled data among all DNs when a spill occurs, in MB. The default value is <b>0</b> .
max_spill_size	Integer	Maximum spilled data among all DNs when a spill occurs, in MB. The default value is <b>0</b> .
average_spill_ size	Integer	Average spilled data among all DNs when a spill occurs, in MB. The default value is <b>0</b> .
spill_skew_per cent	Integer	DN spill skew.
min_dn_time	Long	Minimum execution time of a statement across all DNs. The unit is ms.
max_dn_time	Long	Maximum execution time of a statement across all DNs. The unit is ms.
average_dn_ti me	Long	Average execution time of a statement across all DNs. The unit is ms.

Parameter	Туре	Description
dntime_skew_ percent	Integer	Execution time skew of a statement among DNs.
min_cpu_time	Long	Minimum CPU time of a statement across all DNs. The unit is milliseconds.
max_cpu_time	Long	Maximum CPU time of a statement across all DNs. The unit is milliseconds.
total_cpu_tim e	Long	Total CPU time of a statement across all DNs. The unit is milliseconds.
cpu_skew_per cent	Integer	CPU time skew of a statement among DNs.
average_peak _iops	Integer	Average IOPS peak of a statement across all DNs. It is counted by ones in a column-store table and by ten thousands in a row-store table.
iops_skew_per cent	Integer	I/O skew of a statement among DNs.
max_peak_iop s	Integer	Maximum IOPS peak of a statement across all DNs. It is counted by ones in a column-store table and by ten thousands in a row-store table.
min_peak_iop s	Integer	Minimum IOPS peak of a statement across all DNs. It is counted by ones in a column-store table and by ten thousands in a row-store table.
query_plan	String	Query Plan
query_status	String	Real-time running status (active, idle, idle in transaction, idle in transaction(aborted), fastpath function call, disabled) of the current query statement.
wlm_status	String	Running status ( <b>pending</b> , <b>running</b> , <b>finished</b> , <b>aborted</b> , <b>active</b> , <b>unknown</b> ) of the current query statement in the resource pool.
wlm_attrib	String	Statement attribute. The available options are ordinary, simple, complicated, and internal.
system_query	Boolean	Whether a query is a system query
backend_start	Long	Time when this process was started, that is, when the client connected to the server
elapsed_time	Long	Execution time so far.

Parameter	Туре	Description	
curr_xact_star t	Long	Time when the current transaction was started (NULL if no transactions are active). If the current query is the first of its transaction, the value of this column is the same as that of the query_start column.	
state_change	Long	Time when the <b>status</b> was changed in the previous time	
query_start	Long	Time when a statement starts to be executed	
query_elapsed _time	Long	Actual execution duration of the statement, in seconds.	

### Table 5-652 ListQueriesStatus

Parameter	Туре	Description
average_quer y_waiting_tim e	Double	Average query wait time
average_time _consumption _of_queries	Double	Average query duration
average_time _consumption _of_sessions	Double	Average session duration
queries_count	Long	Number of records to be queried.
session_count	Long	Sessions

### **Example Request**

```
https://{Endpoint}/v2/{project_id}/clusters/{cluster_id}/dms/queries

{
    "offset" : 0,
    "limit" : 1,
    "cluster_id" : "cluster_id",
    "project_id" : "project_id",
    "conditions" : [ {
        "field" : "userName",
    "value": "User Name",
    "operator" : "="
    }, {
        "field" : "applicationName",
    "value": "Application Name",
    "operator" : "<>"
}, {
        "field" : "dbName",
    "value": "Database name",
    "value": "Database name",
    "operator" : "="
```

```
}, {
"field" : "resourcePool",
"value": "Resource Pool",
    "operator" : "<>"
   "field" : "queryStatus",
"value": "Query status",
   "operator" : "="
 }, {
  "field" : "enqueue",
"value": "Queuing status",
"operator" : "<>"
 }, {
    "field" : "lane",
"value": "Fast and slow lane",
    "operator" : "="
}, {
  "field" : "instName",
"value": "Access CN",
   "operator" : "<>"
}, {
"field" : "pid",
"value": "Session ID",
    "operator" : "="
 }, {
    "field" : "blockTime",
    "value" : "1",
    "operator" : "="
  }, {
   "field" : "duration",
"value" : "2",
"operator" : "<>"
 }, {
  "field" : "minCpuTime",
  "value" : "3",
  "operator" : ">"
 }, {
   "field" : "maxCpuTime",
    "value" : "4",
"operator" : "<"
 }, {
   "field" : "totalCpuTime",
   "value" : "5",
   "operator" : ">="
 }, {
  "field" : "cpuSkewPercent",
  "value" : "6",
  "operator" : "<="</pre>
 "value": "DN spill information",
"operator" : "="
 }, {
  "field" : "minSpillSize",
  "value" : "7",
    "operator" : "<>"
  }, {
   "field": "maxSpillSize",
   "value" : "8",
"operator" : ">"
 }, {
   "field" : "averageSpillSize",
   "value" : "9",
"operator" : "<"
 }, {
    "field" : "spillSkewPercent",
    "value" : "10",
    "." ="
    "operator" : ">="
 }, {
```

```
"field" : "queryBand",
"value": "Job type",
"operator" : "<>"
}, {
"field" : "jobName",
"value": " Task name",
   "operator" : "="
}, {
    "field" : "jobInst",
    "value": "Task instance",
    "operator" : "<>"
 }, {
  "field" : "clientHostname",
"value": "Host name",
   "operator" : "="
 }, {
  "field" : "clientPort",
"value": "TCP port",
"operator" : "<>"
 }, {
  "field" : "waiting",
"value": "Wait",
"operator" : "="
  }, {
    "field" : "estimateTotalTime",
"value" : "11",
    "operator" : "="
 }, {
  "field" : "estimateLeftTime",
  "value" : "12",
  "operator" : "<>"
 }, {
  "field" : "controlGroup",
  "value" : "cgroup",
    "operator" : "like"
 }, {
  "field" : "minPeakMemory",
  "value" : "13",
    "operator" : "="
 }, {
"field" : "maxPeakMemory",
   "value" : "14",
"operator" : "<>"
 }, {
  "field" : "averagePeakMemory",
  "value" : "15",
  "operator" : ">"
 }, {
  "field" : "memorySkewPercent",
  "value" : "16",
 }, {
  "field" : "estimateMemory",
  "value" : "17",
    "operator" : ">="
 }, {
    "field" : "minDnTime",
    "value" : "18",
    "cor" : "<="</pre>
    "operator" : "<="
 }, {
  "field" : "maxDnTime",
  "value" : "19",
  "operator" : "="
 }, {
   "field": "averageDnTime",
    "value" : "20",
    "operator" : "<>"
 }, {
    "field" : "dntimeSkewPercent",
```

```
"value": "21",
   "operator" : ">"
 }, {
  "field" : "warning",
"value": "Alarm",
  "operator" : "="
}, {
  "field" : "averagePeaklops",
  "value" : "22",
  "operator" : "<>"
 }, {
  "field" : "iopsSkewPercent",
  "value" : "23",
  "operator" : ">"
}, {
  "field" : "wlmStatus",
"value": "Statement running status",
   "operator" : "="
 }, {
  "field" : "wlmAttrib",
"value": "Statement attribute",
  "operator" : "not like"
 }],
 "order_by": "duration asc",
 "target" : "db_queries"
```

### **Example Response**

```
"code": 0,
"msg" : "OK",
"count" : 0,
"data" : {
 "queries" : [ {
   "ctime" : 1699062726000,
"pid" : "140535026615872",
   "waiting": false,
   "duration" : 0,
"enqueue" : "",
"warning" : "",
   "query": "WLM fetch collect info from data nodes",
"lane": "",
   "priority" : null,
   "virtual_cluster_id": 0,
   "inst_name" : "cn_5002",
"db_name" : "postgres",
"query_id" : "145522562959854219",
   "query_band" : "",
   "job_name" : "",
   "job_inst" : "",
   "user_name" : "Ruby",
   "application_name" : "workload",
"client_address" : "",
   "client_hostname": '"",
   "client_port" : "",
   "start_time": 0,
   "block_time" : 0,
   "estimate_total_time": 0,
   "estimate_left_time" : 0,
   "resource_pool" : "default_pool",
   "control_group" : "",
   "min_peak_memory" : 0,
   "max_peak_memory": 0,
   "average_peak_memory" : 0,
   "memory_skew_percent": 0,
   "estimate_memory": 0,
```

```
"spill_info": "",
 "min_spill_size" : 0,
"max_spill_size" : 0,
 "average_spill_size" : 0,
 "spill_skew_percent" : 0,
 "min_dn_time" : 0,
 "max_dn_time" : 0,
 "average_dn_time": 0,
 "dntime_skew_percent" : 0,
 "min_cpu_time": 0,
 "max_cpu_time" : 0,
"total_cpu_time" : 0,
 "cpu_skew_percent" : 0,
 "average_peak_iops" : 0,
 "iops_skew_percent" : 0,
 "max_peak_iops" : 0,
 "min_peak_iops" : 0,
 "query_plan" : null,
"query_status" : "active",
"wlm_status" : "",
"wlm_attrib" : "",
 "system_query" : true,
"backend_start" : 1698998138,
 "elapsed_time": 64585,
 "curr_xact_start" : 1699062726,
"state_change" : 1698998142,
 "query_start": 1698998142,
 "query_elapsed_time" : -1
}],
'status" : {
 "session_count": 19,
 "average_time_consumption_of_sessions": 51297.58,
 "queries_count" : 19,
 "average_time_consumption_of_queries": 48799.8,
 "average_query_waiting_time" : 0
```

### **Status Code**

Status Code	Description
200	The SQL list is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.14.8 Querying SQL Execution Information

### **Function**

This API is used to query SQL execution information.

### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/dms/queries/{query\_id}

Table 5-653 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
query_id	Yes	String	Query ID

Table 5-654 Query parameters

Parameter	Mandatory	Туре	Description
ctime	No	Long	Collection time

### **Request Parameters**

None

### **Response Parameters**

**Table 5-655** Response body parameters

Parameter	Туре	Description
code	Integer	Response code
msg	String	Response message
data	ListQueriesDt o object	Response data

Table 5-656 ListQueriesDto

Parameter	Туре	Description	
virtual_cluster _id	Integer	Virtual cluster ID	
ctime	Long	Collection time	
pid	String	Session ID	
inst_name	String	Instance name	
waiting	Boolean	Whether the backend is currently waiting on a lock. If yes, the value is <b>true</b> .	
enqueue	String	Resource status in workload management	
warning	String	Warnings related to SQL self-diagnosis and tuning	
query	String	Query statement	
lane	String	Fast or slow lane.	
db_name	String	Database name	
priority	String	Priority of a job in the resource pool. The value can be 1, 2, 4, or 8 (rush, high, medium, or low).	
query_id	String	Internal <b>query_id</b> used for statement execution	
query_band	String	Job type, which can be set using the guc parameter <b>query_band</b> . The default value is a null string.	
job_name	String	The value is obtained from the <b>query_band</b> field. The position is 0.	
job_inst	String	The value is obtained from the <b>query_band</b> field. The position is 1.	
user_name	String	Username used for connecting to the backend	
application_n ame	String	Name of the application that is connected to the backend.	
client_address	String	IP address of the client connected to this backend.	
client_hostna me	String	Host name of the client.	
client_port	String	TCP port number used by a client to communicate with the backend	
start_time	Long	Time when a statement starts to be executed	

Parameter	Туре	Description	
block_time	Long	Block time before the statement is executed. The unit is ms.	
duration	Long	Duration that a statement has been executed. The unit is ms.	
estimate_total _time	Long	Estimated execution time of a statement. The unit is ms.	
estimate_left_ time	Long	Estimated remaining time of statement execution. The unit is ms.	
resource_pool	String	Resource pool used by the user	
control_group	String	Cgroup used by the statement.	
min_peak_me mory	Integer	Minimum memory peak of a statement across all DNs. The unit is MB.	
max_peak_me mory	Integer	Maximum memory peak of a statement across all DNs. The unit is MB.	
average_peak _memory	Integer	Average memory usage during statement execution. The unit is MB.	
memory_skew _percent	Integer	Memory usage skew of a statement among DNs.	
estimate_me mory	Integer	Estimated memory used by a statement. The unit is MB.	
spill_info	String	Information about the statement spilling to disks on all DNs.	
min_spill_size	Integer	Minimum spilled data among all DNs when a spill occurs, in MB. The default value is <b>0</b> .	
max_spill_size	Integer	Maximum spilled data among all DNs when a spill occurs, in MB. The default value is <b>0</b> .	
average_spill_ size	Integer	Average spilled data among all DNs when a spill occurs, in MB. The default value is <b>0</b> .	
spill_skew_per cent	Integer	DN spill skew.	
min_dn_time	Long	Minimum execution time of a statement across all DNs. The unit is ms.	
max_dn_time	Long	Maximum execution time of a statement across all DNs. The unit is ms.	
average_dn_ti me	Long	Average execution time of a statement across all DNs. The unit is ms.	

Parameter	Туре	Description	
dntime_skew_ percent	Integer	Execution time skew of a statement among DNs.	
min_cpu_time	Long	Minimum CPU time of a statement across all DNs. The unit is milliseconds.	
max_cpu_time	Long	Maximum CPU time of a statement across all DNs. The unit is milliseconds.	
total_cpu_tim e	Long	Total CPU time of a statement across all DNs. The unit is milliseconds.	
cpu_skew_per cent	Integer	CPU time skew of a statement among DNs.	
average_peak _iops	Integer	Average IOPS peak of a statement across all DNs. It is counted by ones in a column-store table and by ten thousands in a row-store table.	
iops_skew_per cent	Integer	I/O skew of a statement among DNs.	
max_peak_iop s	Integer	Maximum IOPS peak of a statement across all DNs. It is counted by ones in a column-store table and by ten thousands in a row-store table.	
min_peak_iop s	Integer	Minimum IOPS peak of a statement across all DNs. It is counted by ones in a column-store table and by ten thousands in a row-store table.	
query_plan	String	Query plan	
query_status	String	Real-time running status (active, idle, idle in transaction, idle in transaction(aborted), fastpath function call, disabled) of the current query statement.	
wlm_status	String	Running status ( <b>pending</b> , <b>running</b> , <b>finished</b> , <b>aborted</b> , <b>active</b> , <b>unknown</b> ) of the current query statement in the resource pool.	
wlm_attrib	String	Statement attribute. The available options are ordinary, simple, complicated, and internal.	
system_query	Boolean	Whether a query is a system query	
backend_start	Long	Time when this process was started, that is, when the client connected to the server	
elapsed_time	Long	Execution time so far.	

Parameter	Туре	Description	
curr_xact_star t	Long	Time when the current transaction was started (NULL if no transactions are active). If the current query is the first of its transaction, the value of this column is the same as that of the query_start column.	
state_change	Long	Time when the <b>status</b> was changed in the previous time	
query_start	Long	Time when a statement starts to be executed	
query_elapsed _time	Long	Actual execution duration of the statement, in seconds.	

### **Example Request**

https://{Endpoint}/v1/{project\_id}/clusters/{cluster\_id}/dms/queries/{query\_id}?ctime=1699062846000

### **Example Response**

```
"code": 0,
"msg" : "OK",
"data" : {
 "ctime": 1699062846000,
 "pid": "140535026615872",
 "waiting" : false,
"duration" : 0,
"enqueue" : "",
 "warning" : "",
 "query": "WLM fetch collect info from data nodes",
"lane": "",
 "priority" : null,
 "virtual_cluster_id": 0,
 "inst_name" : "cn_5002",
"db_name" : "postgres",
 "query_id": "145522562959855061",
 "query_band" : "",
"job_name" : "",
 "job_inst" : "",
 "user_name" : "Ruby",
"application_name" : "workload",
"client_address" : "",
 "client_hostname" : "",
 "client_port" : "",
 "start_time": 0,
 "block_time": 0,
 "estimate_total_time": 0,
 "estimate_left_time" : 0,
 "resource_pool" : "default_pool",
 "control_group" : "",
 "min_peak_memory" : 0,
 "max_peak_memory" : 0,
 "average_peak_memory" : 0,
 "memory_skew_percent": 0,
 "estimate_memory" : 0,
 "spill_info": "",
 "min_spill_size": 0,
```

```
"max_spill_size": 0,
"average_spill_size" : 0,
"spill_skew_percent" : 0,
"min_dn_time" : 0,
"max_dn_time" : 0,
"average_dn_time" : 0,
"dntime_skew_percent" : 0,
"min_cpu_time" : 0,
"max_cpu_time" : 0,
"total_cpu_time" : 0,
"cpu_skew_percent" : 0,
"average_peak_iops" : 0,
"iops_skew_percent" : 0,
"max_peak_iops" : 0,
"min_peak_iops": 0,
"query_plan": "",
"query_status": "active",
"wlm_status" : "",
"wlm_attrib" : "",
"system_query" : false,
"backend_start" : 0,
"elapsed_time" : 0,
"curr_xact_start" : 0,
"state_change" : 0,
"query_start" : 0,
"query_elapsed_time" : 0
```

### **Status Code**

Status Code	Description
200	The SQL execution information is queried successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.14.9 Querying the Metrics of a Cluster

### **Function**

This API is used to query the metrics of a cluster.

#### URI

GET /v1/{project\_id}/clusters/{cluster\_id}/dms/metrics

**Table 5-657** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-658** Query parameters

Parameter	Mandatory	Туре	Description
offset	Yes	Integer	Offset from which the query starts. The value is greater than or equal to <b>0</b> .
limit	Yes	Integer	Number of records displayed on each page. The maximum value is <b>1000</b> .
order_by	No	String	Sorting field. The value is fixed to: create_time
sort_by	No	String	Sorting method. The value can be <b>asc</b> (ascending order) or <b>desc</b> (descending order).

### **Request Parameters**

None

# **Response Parameters**

Table 5-659 Response body parameters

Parameter	Туре	Description
code	Integer	Response code
msg	String	Response message
data	Array of ClusterMetric objects	List of metrics

Parameter	Туре	Description
count	Long	Total size

#### Table 5-660 ClusterMetric

Parameter	Туре	Description
scope	String	Scope
fields	Array of SimpleFieldD to objects	Field information in the metric table
metric_name	String	Metric name
collect_rate	Integer	Collection rate
collect_range	Array of strings	Collection time range
create_time	String	Creation time

### Table 5-661 SimpleFieldDto

Parameter	Туре	Description
column_name	String	Column name in the metric table
column_type	String	Column type in the metric table

### **Example Request**

 $https://\{Endpoint\}/v1/\{project\_id\}/clusters/\{cluster\_id\}/dms/metrics?\\ limit=1&offset=0&order\_by=create\_time&sort\_by=desc$ 

### **Example Response**

```
{
    "code" : 0,
    "msg" : "OK",
    "data" : [ {
        "scope" : "CN,ANY",
        "fields" : [ {
             "column_name" : "db_name",
             "column_type" : "text"
        }, {
             "column_name" : "schema_name",
             "column_type" : "text"
        }, {
             "column_name" : "table_name",
             "column_name" : "table_name",
             "column_type" : "text"
        }, {
```

```
"column_name" : "table_owner",
    "column_type" : "text"
}, {
    "column_name" : "table_size",
    "column_type" : "bigint"
}, {
    "column_name" : "dirty_page_rate",
    "column_type" : "double precision"
}],
    "metric_name" : "TableDirtyPageRate",
    "collect_rate" : 7200,
    "collect_range" : [],
    "create_time" : "1701915436000"
}],
    "count" : 1
}
```

#### Status Code

Status Code	Description
200	The metrics of the cluster are queried successfully.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.14.10 Obtaining Collected Data of a Specified Metric

### **Function**

This API is used to obtain the collected data of a specified metric.

### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/dms/metrics/{metric\_name}

#### **Table 5-662** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
metric_name	Yes	String	Metric name.

**Table 5-663** Query parameters

Parameter	Mandatory	Туре	Description
offset	Yes	Integer	Offset from which the query starts. The value is greater than or equal to <b>0</b> .
limit	Yes	Integer	Number of records displayed on each page. The maximum value is <b>1000</b> .
from	Yes	Long	Start time of the collection. Its value is a 13-digit timestamp.
to	Yes	Long	End time of the collection. Its value is a 13-digit timestamp. The period from the start time to the end time cannot exceed one day.
order_by	No	String	Sorting field. The value is fixed to: <b>ctime</b> : collection time
sort_by	No	String	Sorting method. The value can be <b>asc</b> (ascending order) or <b>desc</b> (descending order).

### **Request Parameters**

None

### **Response Parameters**

**Table 5-664** Response body parameters

Parameter	Туре	Description
code	Integer	Response code
msg	String	Response message

Parameter	Туре	Description
data	Array of Map <string,st ring&gt; objects</string,st 	List of collected metric data
count	Long	Total size

### **Example Request**

https://{Endpoint}/v1/{project\_id}/clusters/{cluster\_id}/dms/metrics/TableDirtyPageRate?limit=1&offset=0&from=1701914324000&to=1701942194000&order\_by=ctime&sort\_by=desc

### **Example Response**

#### Status code: 200

Query collected data of a metric.

```
{
  "code": 0,
  "msg": "OK",
  "data": [ {
    "table_size": 40960,
    "virtual_cluster_id": 53,
    "db_name": "postgres",
    "ctime": 1701929836000,
    "table_owner": "Ruby",
    "schema_name": "pmk",
    "table_name": "pmk_meta_data",
    "dirty_page_rate": 0.8
} ],
  "count": 3
```

### **Status Code**

Status Code	Description
200	The collected data of a metric is queried.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.15 Managing Database Permissions**

# 5.15.1 Deleting User/Role Information

### **Function**

This API is used to delete user or role information.

#### URI

DELETE /v1/{project\_id}/clusters/{cluster\_id}/db-manager/users/{name}

### Table 5-665 URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
name	Yes	String	Username

### **Request Parameters**

None

### **Response Parameters**

None

### **Example Request**

 $\label{lem:decomposition} DELETE\ https://\{Endpoint\}/v1/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/db-manager/users/user1$ 

### **Example Response**

{}

Status code: 200

The user is deleted.

### **Status Code**

Status Code	Description
200	The user is deleted.
400	Request error.

Status Code	Description
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.15.2 Synchronizing Sub-users to the Database

### **Function**

This API is used to synchronize sub-users to the database.

### **URI**

POST /v1/{project\_id}/clusters/{cluster\_id}/db-manager/sync-iam-user

Table 5-666 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

### **Request Parameters**

None

### **Response Parameters**

**Table 5-667** Response body parameter

Parameter	Туре	Description
sync_user	Array of strings	List of users that are successfully created.

### **Example Request**

POST https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/a89aea88-7ea2-40bd-8ac8-8b93e169e5d6/db-manager/sync-iam-user

### **Example Response**

Status code: 200

The user list is created.

```
{
_ "sync_user" : [ "user1", "user2" ]
```

#### **Status Code**

Status Code	Description
200	The user list is created.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.15.3 Querying All Database Users and Roles

### **Function**

This API is used to query all database users and roles.

### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/db-manager/users

#### Table 5-668 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

### **Request Parameters**

None

### **Response Parameters**

Status code: 200

**Table 5-669** Response body parameter

Parameter	Туре	Description
users	Array of  DatabaseUse r objects	User list.

#### Table 5-670 DatabaseUser

Parameter	Туре	Description	
name	String	Username	
login	Boolean	Permission to log in to the database	

### **Example Request**

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/a89aea88-7ea2-40bd-8ac8-8b93e169e5d6/db-manager/users

### **Example Response**

Status code: 200

User/role list.

```
{
    "users" : [ {
        "name" : "user1",
        "login" : true
    }, {
        "name" : "user2",
        "login" : false
    } ]
}
```

### **Status Code**

Status Code	Description
200	User/role list.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.15.4 Creating a Database User/Role

### **Function**

This API is used to create a database user or role.

### **URI**

POST /v1/{project\_id}/clusters/{cluster\_id}/db-manager/users

Table 5-671 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.

# **Request Parameters**

**Table 5-672** Request body parameters

Parameter	Mandatory	Туре	Description
type	No	String	Type. The value can be <b>role</b> (default) or <b>user</b> .

Parameter	Mandatory	Туре	Description
name	Yes	String	Username
login	No	Boolean	Whether login is allowed. The default value is <b>true</b> for a user and <b>false</b> for a role.
password_disa ble	No	Boolean	Whether to set a password. The default value is <b>false</b> for a user and <b>true</b> for a role.
password	No	String	This parameter is mandatory when <b>password_disable</b> is set to <b>false</b> .
createrole	No	Boolean	Whether it has the permission to create roles
createdb	No	Boolean	Whether it has the permission to create databases
systemadmin	No	Boolean	Whether it has the system administrator permission
auditadmin	No	Boolean	Whether it has the audit administrator permission
inherit	No	Boolean	Inheritance permissions
useft	No	Boolean	Foreign table permissions
conn_limit	No	Integer	Maximum number of connections.
valid_begin	No	String	Time when a role takes effect
valid_until	No	String	Role expiration time
lock	No	Boolean	Whether to lock an account
desc	No	String	description
grant_membe rs	No	Array of GrantMembe r objects	List of authorized roles
grant_list	No	Array of GrantAuthori ty objects	List of authorized permissions

### **Table 5-673** GrantMember

Parameter	Mandatory	Туре	Description
name	Yes	String	Role name

Parameter	Mandatory	Туре	Description
grant_with	No	Boolean	Authorized permission

Table 5-674 GrantAuthority

Parameter	Mandatory	Туре	Description
type	Yes	String	Object types:  DATABASE  SCHEMA  TABLE  VIEW  COLUMN  FUNCTION  SEQUENCE  NODEGROUP
database	No	String	Database. This parameter is mandatory when the object type is not <b>DATABASE</b> .
schema	No	String	Schema. This parameter is mandatory when the object type is TABLE, VIEW, COLUMN, FUNCTION or SEQUENCE.
obj_name	No	String	Name of the object to be authorized, for example, table name or function name. When you grant permissions to a column, set this parameter to the table name.
all_object	No	Boolean	Whether to grant permissions to all objects in the schema. The default value is <b>false</b> .
column_name	No	String	Column name, which is used for column authorization.
privileges	No	Array of <b>Grant</b> objects	Permission list

Table 5-675 Grant

Parameter	Mandatory	Туре	Description
permission	Yes	String	Permission name. The permission varies depending on the database object type.
			database CREATE       CONNECT   TEMPORARY       TEMP ALL PRIVILEGES
			<ul> <li>schema CREATE   USAGE   ALTER   DROP ALL PRIVILEGES</li> </ul>
			table SELECT   INSERT   UPDATE   DELETE   TRUNCATE   REFERENCES   TRIGGER   ANALYZE   ANALYSE   VACUUM   ALTER   DROP ALL PRIVILEGES
			view Select   Insert   UPDATE   Delete   TRUNCATE   REFERENCES   TRIGGER   ANALYZE   ANALYSE   VACUUM   ALTER   DROP ALL PRIVILEGES
			<ul> <li>column SELECT   INSERT   UPDATE   REFERENCES ALL PRIVILEGES</li> </ul>
			function EXECUTE ALL     PRIVILEGES
			• sequence SELECT   UPDATE   USAGE ALL PRIVILEGES
			nodegroup CREATE       USAGE   COMPUTE ALL     PRIVILEGES
			role role_name (role name)
grant_with	Yes	Boolean	Whether a permission is included in the grant options.

# **Response Parameters**

None

### **Example Request**

POST https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/a89aea88-7ea2-40bd-8ac8-8b93e169e5d6/db-manager/users

```
{
"type": "role",
    "name": "g3201",
    "grant_members": [ {
        "name": "q10",
        "grant_with": true
} ],
    "grant_list": [ {
        "database": "gaussdb",
        "type": "TABLE",
        "schema": "public",
        "obj_name": "t1",
        "privleges": [ {
            "grant_with": true,
            "permission": "SELECT"
        } ]
        } ]
        } ],
        "valid_until": "2023-06-28T12:23:06",
        "conn_limit": 11,
        "password": "Pass_123456789",
        "login": false,
        "createrole": true,
        "desc": ""
}
```

### **Example Response**

Status code: 200

The request for creating a user is responded.

### **Status Code**

Status Code	Description
200	The request for creating a user is responded.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.15.5 Querying User Information**

### **Function**

This API is used to query information about a specified user.

#### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/db-manager/users/{name}

**Table 5-676** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
name	Yes	String	Username

## **Request Parameters**

None

# **Response Parameters**

**Table 5-677** Response body parameter

Parameter	Туре	Description	
name	String	Username.	
login	Boolean	Permission to log in to the database	
createrole	Boolean	Permission to create roles	
createdb	Boolean	Permission to create databases	
systemadmin	Boolean	System administrator	
auditadmin	Boolean	Audit administrator.	
inherit	Boolean	Whether a user can inherit the permissions of the group to which it belongs	
useft	Boolean	Permission to access foreign tables.	
conn_limit	Integer	Maximum number of connections.	
replication	Boolean	Whether streaming replication is allowed	
valid_begin	Long	Time when a role takes effect	
valid_until	Long	Expiration time of a role	

Parameter	Туре	Description	
lock	Boolean	Whether a user is locked	
desc	String	Description.	
user_type	String	Type of a user.	
logical_cluster	String	Specifies the logical cluster to which the VM belongs.	

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/a89aea88-7ea2-40bd-8ac8-8b93e169e5d6/db-manager/users/user1

## **Example Response**

#### Status code: 200

User information details

```
{
    "name" : "user1",
    "login" : true,
    "createrole" : true,
    "createdb" : true,
    "systemadmin" : false,
    "auditadmin" : false,
    "inherit" : false,
    "useft" : true,
    "conn_limit" : -1,
    "replication" : false,
    "valid_begin" : 1681971166000,
    "valid_until" : 1681971166000,
    "lock" : false,
    "desc" : "",
    "user_type" : "",
    "logical_cluster" : ""
}
```

Status Code	Description
200	User information details
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.15.6 Modifying User Information

# **Function**

This API is used to modify information about a specified user.

#### **URI**

POST /v1/{project\_id}/clusters/{cluster\_id}/db-manager/users/{name}

Table 5-678 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
name	Yes	String	Username

# **Request Parameters**

**Table 5-679** Request body parameters

Parameter	Mandatory	Туре	Description
login	No	Boolean	Permission to log in to the database.
createrole	No	Boolean	Permission to create roles.
createdb	No	Boolean	Permission to create databases.
systemadmin	No	Boolean	System administrator.
auditadmin	No	Boolean	Audit administrator.
inherit	No	Boolean	Whether a user can inherit the permissions of the group to which it belongs.
useft	No	Boolean	Permission to access foreign tables.
conn_limit	No	Integer	Maximum number of connections.

Parameter	Mandatory	Туре	Description
replication	No	Boolean	Whether streaming replication is allowed.
valid_begin	No	String	Role effective time, in yyyy- MM-ddTHH:mm:ssZ format.
valid_until	No	String	Role expiration time, in yyyy- MM-ddTHH:mm:ssZ format.
lock	No	Boolean	Whether a user is locked.

### **Response Parameters**

None

## **Example Request**

Modify information about **user1** in the cluster whose ID is **a89aea88-7ea2-40bd-8ac8-8b93e169e5d6** so that **user1** can log in to the database and have the permissions to create roles, create databases, and access foreign tables. However, do not grant **user1** the system administrator and audit administrator permissions, and do not limit the number of connections.

```
POST https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/
a89aea88-7ea2-40bd-8ac8-8b93e169e5d6/db-manager/users/user1

{
    "login" : true,
    "createrole" : true,
    "createdb" : true,
    "systemadmin" : false,
    "auditadmin" : false,
    "inherit" : false,
    "useft" : true,
    "conn_limit" : -1,
    "replication" : false,
    "valid_begin" : "2023-04-03T12:23:01",
    "valid_until" : "2023-04-18T12:23:01",
    "lock" : false
}
```

### **Example Response**

Status code: 200

None

Status Code	Description
200	User information details.

Status Code	Description
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.15.7 Modifying Database Object Permissions**

## **Function**

This API is used to modify database object permissions.

#### **URI**

POST /v1/{project\_id}/clusters/{cluster\_id}/db-manager/authority

Table 5-680 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

**Table 5-681** Request body parameters

Parameter	Mandatory	Туре	Description
type	Yes	String	Object type [DATABASE   SCHEMA   TABLE   VIEW   COLUMN   FUNCTION  SEQUENCE   NODEGROUP   ROLE].

Parameter	Mandatory	Туре	Description
is_grant	Yes	Boolean	Whether to grant a permission
grant_list	No	Array of <b>Grant</b> objects	This parameter is mandatory when <b>is_grant</b> is set to <b>true</b> .
revoke_list	No	Array of Revoke objects	List of revoked permissions. This parameter is mandatory when <b>is_grant</b> is set to <b>false</b> .
role_list	Yes	Array of strings	List of roles that a permission is granted
object_list	Yes	Array of strings	List of objects to which a permission belongs
all_object	No	Boolean	Permissions on all database objects in a schema. The default value is false.
cascade	No	Boolean	Whether a permission is revoked in cascading mode. The default value is <b>true</b> .  Default value: <b>true</b>
database	Yes	String	Database name
schema	No	String	Schema name
table	No	String	Table name

Table 5-682 Grant

Parameter	Mandatory	Туре	Description
permission	Yes	String	Permission name. The permission varies depending on the database object type.
			database CREATE       CONNECT   TEMPORARY       TEMP ALL PRIVILEGES
			<ul> <li>schema CREATE   USAGE   ALTER   DROP ALL PRIVILEGES</li> </ul>
			table SELECT   INSERT   UPDATE   DELETE   TRUNCATE   REFERENCES   TRIGGER   ANALYZE   ANALYSE   VACUUM   ALTER   DROP ALL PRIVILEGES
			view Select   Insert   UPDATE   Delete   TRUNCATE   REFERENCES   TRIGGER   ANALYZE   ANALYSE   VACUUM   ALTER   DROP ALL PRIVILEGES
			column SELECT   INSERT       UPDATE   REFERENCES ALL     PRIVILEGES
			function EXECUTE ALL     PRIVILEGES
			sequence SELECT   UPDATE   USAGE ALL PRIVILEGES
			nodegroup CREATE       USAGE   COMPUTE ALL     PRIVILEGES
			role role_name (role name)
grant_with	Yes	Boolean	Whether a permission is included in the grant options.

Table 5-683 Revoke

Parameter	Mandatory	Туре	Description
permission	Yes	String	Permission name. The permission varies depending on the database object type.
			database CREATE       CONNECT   TEMPORARY       TEMP ALL PRIVILEGES
			<ul> <li>schema CREATE   USAGE   ALTER   DROP ALL PRIVILEGES</li> </ul>
			table SELECT   INSERT   UPDATE   DELETE   TRUNCATE   REFERENCES   TRIGGER   ANALYZE   ANALYSE   VACUUM   ALTER   DROP ALL PRIVILEGES
			view Select   Insert   UPDATE   Delete   TRUNCATE   REFERENCES   TRIGGER   ANALYZE   ANALYSE   VACUUM   ALTER   DROP ALL PRIVILEGES
			<ul> <li>column SELECT   INSERT   UPDATE   REFERENCES ALL PRIVILEGES</li> </ul>
			function EXECUTE ALL     PRIVILEGES
			sequence SELECT   UPDATE   USAGE ALL PRIVILEGES
			<ul> <li>nodegroup CREATE   USAGE   COMPUTE ALL PRIVILEGES</li> </ul>
			role role_name (role name)
revoke_with	Yes	Boolean	Whether to remove a grant option.

# **Response Parameters**

Table 5-684 Response body parameter

Parameter	Туре	Description
view_sql	Array of strings	SQL list.

Modify the database object permission of the cluster whose ID is a89aea88-7ea2-40bd-8ac8-8b93e169e5d6. Specifically, grant the SELECT permission of table1 and table2 in a GaussDB database to user1 and user2 in the schema public.

```
POST https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/
a89aea88-7ea2-40bd-8ac8-8b93e169e5d6/db-manager/authority

{
    "type" : "table",
    "is_grant" : true,
    "grant_list" : [ {
        "permission" : "SELECT",
        "grant_with" : true
} ],
    "role_list" : [ "user1", "user2" ],
    "object_list" : [ "table1", "table2" ],
    "database" : "gaussdb",
    "schema" : "public"
}
```

## **Example Response**

Status code: 200

User information details

```
{
    "view_sql" : [ "GRANT SELECT ON TABLE public.test_t1 TO user1 WITH GRANT OPTION;", "GRANT
    UPDATE ON TABLE public.test_t1 TO user1 ;" ]
}
```

Status Code	Description
200	User information details.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.15.8 Querying Database Object Permissions**

#### **Function**

This API is used to query database object permissions.

#### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/db-manager/authority

**Table 5-685** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

Table 5-686 Query parameters

Parameter	Mandatory	Туре	Description
type	Yes	String	Object Type [DATABASE   SCHEMA   TABLE   VIEW   COLUMN  FUNCTION   SEQUENCE  NODEGROUP]
name	Yes	Array of strings	Object name
database	Yes	String	Database name
schema	No	String	Schema name. This parameter is mandatory when the object type is TABLE, VIEW, COLUMN, FUNCTION, or SEQUENCE.
table	No	String	Specifies the table name. This parameter is mandatory when the object type is COLUMN.

# **Request Parameters**

None

## **Response Parameters**

Status code: 200

**Table 5-687** Response body parameter

Parameter	Туре	Description
authorities	Array of ObjectAuthor ity objects	Object permission set

#### Table 5-688 ObjectAuthority

Parameter	Туре	Description
name	String	Object name
role_authority	Array of RoleAuthorit y objects	Role permission set

#### Table 5-689 RoleAuthority

Parameter	Туре	Description
role	String	Role name
right_list	Array of strings	Permission list

## **Example Request**

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/a89aea88-7ea2-40bd-8ac8-8b93e169e5d6/db-manager/authority?type=table&name=table1&database=gaussdb&schema=public

## **Example Response**

#### Status code: 200

Database object permission information

```
{
  "authorities" : [ {
    "name" : "table1",
    "role_authority" : [ {
        "role" : "role1",
        "right_list" : [ "SELECT", "UPDATE" ]
    }, {
        "role" : "role2",
        "right_list" : [ "SELECT", "UPDATE" ]
    } ]
```

}] }

## **Status Code**

Status Code	Description
200	Database object permission information.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.15.9 Querying the Role of a User

## **Function**

This API is used to query the role of a user.

## **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/db-manager/users/{name}/roles

Table 5-690 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.
name	Yes	String	Username.

Table 5-691 Query parameters

Parameter	Mandatory	Туре	Description
query_all	No	String	Queries all roles. The default value is <b>false</b> , indicating that only roles with specified permissions are queried.
offset	No	Number	Offset. The default value is <b>0</b> .
limit	No	Number	Number of records to be queried. The default value is <b>1000</b> .

None

# **Response Parameters**

Status code: 200

**Table 5-692** Response body parameters

Parameter	Туре	Description
roles	Array of RoleMember objects	Role list
count	Integer	Total number

Table 5-693 RoleMember

Parameter	Туре	Description	
name	String	Role name	
desc	String	Role description.	
permission	Boolean	Permissions of the role	
grant_with	Boolean	Authorization permissions of the role	

# **Example Request**

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/a89aea88-7ea2-40bd-8ac8-8b93e169e5d6/db-manager/users/user1/roles

nul

## **Example Response**

#### Status code: 200

Roles of the user are queried.

```
{
    "roles" : [ {
        "name" : "t1",
    "desc": "Description",
        "permission" : true,
        "grant_with" : false
    }, {
        "name" : "t2",
    "desc": "Description",
        "permission" : true,
        "grant_with" : false
    } ],
    "count" : 2
}
```

#### **Status Code**

Status Code	Description
200	Roles of the user are queried.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.15.10 Querying the Permissions of a User

## **Function**

This interface is used to query the permissions of a user.

#### URI

GET /v1/{project\_id}/clusters/{cluster\_id}/db-manager/users/{name}/authority

**Table 5-694** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
name	Yes	String	Username.

**Table 5-695** Query parameters

Parameter	Mandatory	Туре	Description
offset	No	Number	Offset. The default value is <b>0</b> .
limit	No	Number	Number of records to be queried. The default value is <b>1000</b> .

None

# **Response Parameters**

**Table 5-696** Response body parameters

Parameter	Туре	Description
authority_list	Array of GrantAuthori ty objects	Permission list
count	Integer	Total number

**Table 5-697** GrantAuthority

Parameter Type Description		
Parameter	Туре	Description
type	String	Object type, which can be:
		DATABASE
		SCHEMA
		• TABLE
		• VIEW
		COLUMN
		FUNCTION
		SEQUENCE
		NODEGROUP
database	String	Database. This parameter is mandatory when the object type is not <b>DATABASE</b> .
schema	String	Schema. This parameter is mandatory when the object type is <b>TABLE</b> , <b>VIEW</b> , <b>COLUMN</b> , <b>FUNCTION</b> or <b>SEQUENCE</b> .
obj_name	String	Name of the object to be authorized, for example, table name or function name. When you grant permissions to a column, set this parameter to the table name.
all_object	Boolean	Whether to grant permissions to all objects in the schema. The default value is <b>false</b> .
column_name	String	Column name, which is used for column authorization.
privileges	Array of Grant objects	Permission list

Table 5-698 Grant

Parameter	Туре	Description
permission	String	Permission name. The permission varies depending on the database object type.
		database CREATE   CONNECT   TEMPORARY   TEMP ALL PRIVILEGES
		<ul> <li>schema CREATE   USAGE   ALTER   DROP ALL PRIVILEGES</li> </ul>
		table SELECT   INSERT   UPDATE   DELETE       TRUNCATE   REFERENCES   TRIGGER       ANALYZE   ANALYSE   VACUUM   ALTER       DROP ALL PRIVILEGES
		view SELECT   INSERT   UPDATE   DELETE       TRUNCATE   REFERENCES   TRIGGER       ANALYZE   ANALYSE   VACUUM   ALTER       DROP ALL PRIVILEGES
		<ul> <li>column SELECT   INSERT   UPDATE   REFERENCES ALL PRIVILEGES</li> </ul>
		function EXECUTE ALL PRIVILEGES
		<ul> <li>sequence SELECT   UPDATE   USAGE ALL PRIVILEGES</li> </ul>
		<ul> <li>nodegroup CREATE   USAGE   COMPUTE ALL PRIVILEGES</li> </ul>
		role role_name (role name)
grant_with	Boolean	Whether a permission is included in the grant options.

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/a89aea88-7ea2-40bd-8ac8-8b93e169e5d6/db-manager/users/user1/authority null

## **Example Response**

#### Status code: 200

The user permission list is queried.

```
{
  "authority_list" : [ {
  "type" : "TABLE",
  "database" : "gaussdb",
  "schema" : "public",
  "obj_name" : "t1",
  "all_object" : false,
  "column_name" : null,
  "privileges" : [ {
    "permission" : "SELECT",
    "grant_with" : true
```

```
}]
}],
"count":1
}
```

#### **Status Code**

Status Code	Description
200	The user permission list is queried.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.15.11 Querying Database Objects**

## **Function**

This API is used to query database objects.

## **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/db-manager/objects

**Table 5-699** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

Table 5-700 Query parameters

Parameter	Mandatory	Туре	Description
type	Yes	String	Database object type:  Database object type:  DATABASE  SCHEMA  TABLE  VIEW  COLUMN  FUNCTION  SEQUENCE
name	No	String	NODEGROUP  Object name
database	No	String	Database name. This parameter is mandatory for querying objects in a database.
schema	No	String	Schema name. This parameter is mandatory for querying objects in a schema.
table	No	String	Table name. This parameter is mandatory for querying columns of a table.
offset	No	Number	Offset. The default value is <b>0</b> .
limit	No	Number	Number of records to be queried. The default value is <b>1000</b> .

None

# **Response Parameters**

**Table 5-701** Response body parameters

Parameter	Туре	Description
type	String	Database object type

Parameter	Туре	Description
object_list	Array of  DatabaseObj ectInfo objects	List of database objects
count	Integer	Total number

#### Table 5-702 DatabaseObjectInfo

Parameter	Туре	Description
obj_name	String	Object name

## **Example Request**

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/a89aea88-7ea2-40bd-8ac8-8b93e169e5d6/db-manager/objects?type=DATABASE&name=mi

## **Example Response**

#### Status code: 200

The database object list is queried.

```
{
"type": "SCHEMA",
   "object_list": [ {
        "obj_name": "pg_toast"
}, {
        "obj_name": "cstore"
}, {
        "obj_name": "sys"
}, {
        "obj_name": "sys"
}, {
        "obj_name": "dbms_om"
}, {
        "obj_name": "dbms_job"
}, {
        "obj_name": "pg_catalog"
}, {
        "obj_name": "public"
}, {
        "obj_name": "information_schema"
}, {
        "obj_name": "utl_file"
}],
        "count": 28
}
```

#### **Status Code**

Status Code	Description
200	The database object list is queried.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.15.12 Setting the LDAP Identity Source

#### **Function**

This API is used to set the LDAP identity source.

#### URI

POST /v1/{project\_id}/clusters/{cluster\_id}/db-manager/ldap-conf

Table 5-703 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.

Table 5-704 Query parameters

Parameter	Mandatory	Туре	Description
admin_name	Yes	String	Administrator username

**Table 5-705** FormData parameters

Parameter	Mandatory	Туре	Description
host	Yes	String	LDAP host address
port	Yes	Integer	LDAP port number
admin_passw ord	Yes	String	Administrator password
base_dn	Yes	String	Query node
filter	Yes	String	Query condition
user_attribute	Yes	String	Username attribute
use_ssl	No	Boolean	Whether to enable SSL
ssl_cert	No	File	SSL certificate
auto_sync	No	Boolean	Whether to enable automatic synchronization

## **Response Parameters**

None

# **Example Request**

```
POST https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/
a89aea88-7ea2-40bd-8ac8-8b93e169e5d6/db-manager/ldap-conf

{
    "host" : "192.168.1.1",
    "port" : 636,
    "admin_name" : "CN=Administrator,CN=Users,DC=gx,DC=com",
    "admin_password" : null,
    "base_dn" : "OU=Domain Controllers,DC=gx,DC=com",
    "filter" : "(&(objectClass=user))",
    "use_attribute" : "sAMAccountName",
    "use_ssl" : true,
    "ssl_cert" : "(binary)",
    "auto_sync" : true
}
```

# **Example Response**

None

#### **Status Code**

Status Code	Description
200	LDAP configured successfully.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.15.13 Querying the LDAP Identity Data Source Configuration

## **Function**

This API is used to query the LDAP configuration.

#### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/db-manager/ldap-conf

Table 5-706 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

None

## **Response Parameters**

<b>Table 5-707</b>	Response	body	parameters
--------------------	----------	------	------------

Parameter	Туре	Description
host	String	IP address of the LDAP server.
port	Integer	LDAP port number.
admin_name	String	Whether login is allowed. The default value is <b>true</b> for a user and <b>false</b> for a role.
admin_passw ord	String	Whether to set a password. The default value is <b>false</b> for a user and <b>true</b> for a role.
base_dn	String	Query node.
filter	String	Query condition.
user_attribute	String	Username attribute in LDAP.
use_ssl	Boolean	Whether to enable SSL.
ssl_cert	String	Name of the uploaded SSL certificate.
auto_sync	Boolean	Whether to enable automatic synchronization.

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/a89aea88-7ea2-40bd-8ac8-8b93e169e5d6/db-manager/ldap-conf

# **Example Response**

#### Status code: 200

Query LDAP configuration information

```
{
  "host" : "",
  "port" : 636,
  "admin_name" : "Administrator account",
  "admin_password" : "#######",
  "base_dn" : "Query node",
  "filter" : "(&(objectClass=user))",
  "user_attribute" : "sAMAccountName",
  "use_ssl" : true,
  "ssl_cert" : "Certificate name",
  "auto_sync" : true
}
```

Status Code	Description
200	LDAP configuration information queried successfully.
400	Request error.

Status Code	Description
401	Authorization failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.15.14 Setting the OneAccess Identity Source**

## **Function**

This API is used to set the OneAccess identity source.

#### **URI**

POST /v1/{project\_id}/clusters/{cluster\_id}/db-manager/oneaccess-conf

Table 5-708 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

**Table 5-709** Request body parameters

Parameter	Mandatory	Туре	Description
host	Yes	String	User access domain name in OneAccess
client_id	Yes	String	OneAccess application ID
client_secret	Yes	String	OneAccess application secret
org_id	No	String	OneAccess organization ID

Parameter	Mandatory	Туре	Description
auto_sync	No	Boolean	Whether to enable automatic synchronization

### **Response Parameters**

None

## **Example Request**

```
POST https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/a89aea88-7ea2-40bd-8ac8-8b93e169e5d6/db-manager/oneaccess-conf

{
    "host": "192.168.1.1",
    "client_id": "TdRpThO9qwWl75y0b2t718dpKAzN0bvN",
    "client_secret": "testsecret",
    "org_id": "20230714170842176-A4AD-58FDD9AEA",
    "auto_sync": true
}
```

## **Example Response**

None

#### **Status Code**

Status Code	Description
200	OneAccess configured successfully.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# **5.15.15 Querying Identity Source Synchronization Records**

## **Function**

This API is used to query identity source synchronization records.

#### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/db-manager/sync-records/{id}

**Table 5-710** URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
id	Yes	String	Synchronization record ID.

**Table 5-711** Query parameters

Parameter	Mandatory	Туре	Description
offset	No	Number	Offset. The default value is <b>0</b> .
limit	No	Number	Number of records to be queried. The default value is <b>1000</b> .

None

# **Response Parameters**

**Table 5-712** Response body parameters

Parameter	Туре	Description
sync_details	Array of IdentitySourc eSyncDetail objects	Synchronization details
count	Integer	Total number of records

Table 5-713 IdentitySourceSyncDetail

Parameter	Туре	Description	
id	String	Synchronization record ID	

Parameter	Туре	Description
sync_record_i d	String	Synchronization record ID
type	String	Operation type
user_name	String	Username
status	String	Synchronization status
fail_reason	String	Failure cause

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/a89aea88-7ea2-40bd-8ac8-8b93e169e5d6/db-manager/sync-records/8717999a-8b2e-4cb9-b215-265cc65201c5

# **Example Response**

#### Status code: 200

Identity source synchronization records queried successfully.

```
{
    "sync_details" : [ {
        "id" : "8717999a-8b2e-4cb9-b215-265cc65201c5",
        "sync_record_id" : "78366074-1c63-4893-8eff-f260c945c65c",
        "type" : "ADD",
        "user_name" : "zhangsan",
        "status" : "SUCCESS",
        "fail_reason\"" : null
    } ],
    "count" : 12
```

Status Code	Description
200	Identity source synchronization records queried successfully.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.15.16 Manually Synchronizing the Identity Source

## **Function**

This API is used to manually synchronize the identity source.

#### **URI**

POST /v1/{project\_id}/clusters/{cluster\_id}/db-manager/sync-execute

#### Table 5-714 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

None

### **Response Parameters**

None

## **Example Request**

 $POST\ https://\{Endpoint\}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/a89aea88-7ea2-40bd-8ac8-8b93e169e5d6/db-manager/sync-execute$ 

## **Example Response**

None

Status Code	Description
200	Identity source synchronized manually.
400	Request error.
401	Authorization failed.
403	You do not have required permissions.

Status Code	Description
404	No resources found.
500	Internal server error.
503	The service was unavailable.

# 5.16 Log Management

# **5.16.1 Obtaining the LTS Log List**

## **Function**

This API is used to obtain the LTS log list.

#### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/lts-logs

Table 5-715 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-716** Query parameters

Parameter	Mandatory	Туре	Description
limit	No	Integer	Number of records to be queried
offset	No	Integer	Offset

## **Request Parameters**

None

## **Response Parameters**

Status code: 200

Table 5-717 Response body parameters

Parameter	Туре	Description
access_status	String	Whether the log function is enabled
lts_access_list	Array of LtslogInfo objects	LTS log list
count	Integer	Total number

## Table 5-718 LtslogInfo

Parameter	Туре	Description	
status	String	Configuration status	
id	String	Log ID	
log_type	String	Log type	
log_desc	String	Log description	
access_url	String	URL for accessing LTS logs	

# **Example Request**

 $\label{lem:general:prop:general:gene$ 

# **Example Response**

Status code: 200

The LTS log list is obtained successfully.

```
{
    "access_status" : "OPEN",
    "lts_access_list" : [ {
        "status" : "OPEN",
        "id" : "c0c4e5f2-9b2a-4b47-a649-baf40b33e2e0",
        "log_type" : "messages",
        "log_desc" : "operating system messages log",
        "access_url" : "/lts/?region=az1.dc1&locale=#/cts/logEventsLeftMenu/events?groupId=b6680a92-e14f-4a7d-b669-4f702db806f7&groupName=z30024644-s-5&topicId=1a9fe6d0-d383-4d58-adb6-2c26d229944e&topicName=messages&epsId=0"
    } ],
    "count" : 2
}
```

#### **Status Code**

Status Code	Description
200	The LTS log list is obtained successfully.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

# 5.16.2 Enabling LTS

## **Function**

This API is used to enable LTS for a cluster.

#### **URI**

POST /v1/{project\_id}/clusters/{cluster\_id}/lts-logs/enable

Table 5-719 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

## **Request Parameters**

None

## **Response Parameters**

None

 $https://\{Endpoint\}/v2/05f2cff45100d5112f4bc00b794ea08e/clusters/a862e17c-2981-4150-9018-f9a40511999c/lts-logs/enable\\$ 

# **Example Response**

None

## **Status Code**

Status Code	Description
200	LTS is enabled successfully.
400	Request error.
401	Authorization failed.
403	No operation permission.
404	No resources found.
500	Internal service error.
503	The service was unavailable.

# 5.16.3 Disabling LTS

## **Function**

This API is used to disable LTS for a cluster.

### URI

POST /v1/{project\_id}/clusters/{cluster\_id}/lts-logs/disable

Table 5-720 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

None

## **Response Parameters**

None

## **Example Request**

 $https: \label{lem:https://Endpoint} $$ https://Endpoint} v2/05f2cff45100d5112f4bc00b794ea08e/clusters/a862e17c-2981-4150-9018-f9a40511999c/lts-logs/disable $$ https://Endpoint/No.2005/12f4bc00b794ea08e/clusters/a862e17c-2981-4150-9018-f9a40511999c/lts-logs/disable $$ https://Endpoint/No.2005/no.2005$ 

## **Example Response**

None

#### **Status Code**

Status Code	Description
200	LTS is disabled successfully.
400	Request error.
401	Authorization failed.
403	No operation permission.
404	No resources found.
500	Internal service error.
503	The service was unavailable.

# 5.17 Upgrade Management

# 5.17.1 Obtaining Cluster Upgrade Records

## **Function**

This API is used to obtain the upgrade records of the current cluster.

#### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/upgrade-management/records

Table 5-721 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

**Table 5-722** Query parameters

Parameter	Mandatory	Туре	Description
offset	No	Integer	Offset
limit	No	Integer	Number of records

None

# **Response Parameters**

Table 5-723 Response body parameters

Parameter	Туре	Description
count	Integer	Total number of cluster upgrade records
records	Array of ClusterUpdat eRecordResp objects	List of cluster upgrade records

Table 5-724 ClusterUpdateRecordResp

Parameter	Туре	Description
item_id	String	Upgrade project ID
status	String	Upgrade status
record_type	String	Upgrade type

Parameter	Туре	Description
from_version	String	Source version
to_version	String	Target version
start_time	String	Start time
end_time	String	End time
job_id	String	Upgrade task ID
failed_reason	String	Cause of failure

 $GET\ https://\{Endpoint\}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/c719b1a7-c85c-4cb5-a721-7694908c2c11/upgrade-management/records$ 

## **Example Response**

#### Status code: 200

Cluster upgrade record response body:

Status Code	Description
200	Cluster upgrade record response body.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
500	Internal server error.
503	Service unavailable.

# 5.17.2 Obtaining the Target Version to Which a Cluster Can Be Upgraded

## **Function**

This API is used to obtain the target version to which a cluster can be upgraded.

### **URI**

GET /v1/{project\_id}/clusters/{cluster\_id}/upgrade-management/avail-versions

Table 5-725 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

Table 5-726 Query parameters

Parameter	Mandatory	Туре	Description
offset	No	Integer	Offset
limit	No	Integer	Number of items

# **Request Parameters**

None

# **Response Parameters**

Status code: 200

Table 5-727 Response body parameters

Parameter	Туре	Description
count	Integer	Total number of cluster upgrade paths
items	Array of UpdateItemR esp objects	List of cluster upgrade paths

Parameter	Туре	Description
id	String	ID of an upgrade item
from	String	Source version
to	String	Target version
status	String	Status of the upgrade path
process	String	Upgrade progress
start_time	String	Start time.
end_time	String	End time
job_id	String	Upgrade task ID
failed_reason	String	Cause of failure

# **Example Request**

GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/c719b1a7-c85c-4cb5-a721-7694908c2c11/upgrade-management/avail-versions

# **Example Response**

### Status code: 200

Response body of the cluster upgrade path.

```
{
"idems": [
{
"id": "930d2820-fc17-4a42-9a50-eb695bf05e83",
"from": "8.2.0",
"to": "8.2.0.100",
"status": "Update_Success",
"process": "0",
"start_time": "2023-08-04T06:54:52",
"end_time": "",
"job_id": "2c90804789bf441e0189bf4c78fd0001",
"failed_reason": null,
}
]
```

# **Status Code**

Status Code	Description
200	Response body of the cluster upgrade path.
400	Request error.
401	Authentication failed.

Status Code	Description
403	You do not have required permissions.
500	Internal server error.
503	Service unavailable.

# **5.17.3 Delivering Cluster Upgrade Operations**

## **Function**

This API is used to deliver cluster upgrade operations.

### **URI**

POST /v1/{project\_id}/clusters/{cluster\_id}/upgrade-management/action

Table 5-729 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.

# **Request Parameters**

**Table 5-730** Request body parameters

Parameter	Mandatory	Туре	Description
action	Yes	String	Operation to be performed on the current cluster. The options are:  • update  • retry  • rollback  • commit
item_id	Yes	String	ID of an upgrade item.

# **Response Parameters**

**Table 5-731** Response body parameters

Parameter	Туре	Description
job_id	String	ID of the task for delivering upgrade-related operations

## **Example Request**

```
GET https://{Endpoint}/v1/0536cdee2200d5912f7cc00b877980f1/clusters/c719b1a7-c85c-4cb5-a721-7694908c2c11/upgrade-management/action

{
    "item_id" : "xx",
    "action" : "update"
}
```

### **Example Response**

#### Status code: 200

```
{
   "job_id" : "2c90807d89a6f9540189a9bef01f042b"
}
```

### **Status Code**

Status Code	Description
200	Operation delivered.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
500	Internal server error.
503	Service unavailable.

# **5.18 Database Monitoring Management APIs**

# 5.18.1 Querying the GaussDB(DWS) Cluster Status

### **Function**

This API is used to query the cluster status. If no cluster ID is specified, the status of all clusters in a project is returned.

### **URI**

- URI format GET /v1/{project\_id}/dms/cluster/status
- Parameter description

Table 5-732 URI parameters

Parameter	Mand atory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see <b>Obtaining Resource Sets ID</b> .

## **Request Message**

- Sample request
   GET /v1/0ab77b46fc80d5342fbec0060ed6ee7c/dms/cluster/status?
   cluster\_id=9c11a33a-64e6-40c1-93bd-01b2255b2228
- Parameter description

Table 5-733 Request parameters

Parameter	Mandatory	Туре	Description
cluster_id	No	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID. If this parameter is not set, the status of all clusters under project_id is returned. If this parameter is set, the status of the specified cluster is returned.

# **Response Message**

```
{
  "clusters": [
  {
    "status": "Normal",
    "dws_db_instances": [
    {
        "status": "Normal",
        "ha_status": "Primary",
        "role": "CM",
        "dws_db_instance_name": "cm_1",
        "dws_db_instance_id": "f9dc4b3c-1f84-49b8-9a1d-688cb2e28f56"
    },
    {
        "status": "Normal",
        "ha_status": "Standby",
        "role": "CM",
        "dws_db_instance_name": "cm_2",
```

```
"dws_db_instance_id": "5a5a5aec-9c3d-4a70-8f14-0c29efd998ea"
"status": "Normal",
"ha_status": "NA",
"role": "CN",
"dws_db_instance_name": "cn_5009",
"dws_db_instance_id": "fe659d29-ec06-4cf7-aa15-948768f569e3"
"status": "Normal",
"ha_status": "Primary",
"role": "GTM",
"dws_db_instance_name": "gtm_1001",
"dws_db_instance_id": "7bb6b371-ba8d-406c-806b-dbe259d032b8"
"status": "Normal",
"ha_status": "Standby",
"role": "GTM",
"dws_db_instance_name": "gtm_1002",
"dws_db_instance_id": "555a9283-1f96-495c-93ed-8b1817f78cd6"
"status": "Normal",
"ha_status": "Standby",
"role": "DN",
"dws_db_instance_name": "dn_6001",
"dws_db_instance_id": "050a5c4d-ed94-4cd1-99a1-ae32b48b1123"
"status": "Normal",
"ha_status": "Primary",
"role": "DN",
"dws_db_instance_name": "dn_6002",
"dws_db_instance_id": "153c1b37-7a02-4cf4-b0d1-59e1a5fb5ab0"
"status": "Normal",
"ha_status": "Secondary",
"role": "DN",
"dws_db_instance_name": "dn_3002",
"dws_db_instance_id": "6c4e9c15-189e-4ee0-8ae3-400d79e47714"
"status": "Normal",
"ha_status": "Standby",
"role": "DN",
"dws_db_instance_name": "dn_6003",
"dws_db_instance_id": "1a6e40a3-ec54-44d7-bcf0-bc73ec40aa47"
"status": "Normal",
"ha_status": "Primary",
"role": "DN",
"dws_db_instance_name": "dn_6004",
"dws_db_instance_id": "8540024b-b6b3-426e-a588-44d5a02cdf17"
"status": "Normal",
"ha_status": "Secondary",
"role": "DN",
"dws_db_instance_name": "dn_3003",
"dws_db_instance_id": "104dbc0f-7c9d-4462-bbb0-bbdbbb7f31d5"
"status": "Normal",
"ha_status": "Standby",
"role": "DN",
```

```
"dws_db_instance_name": "dn_6005",
 "dws_db_instance_id": "e99c296d-9524-4866-8f3f-dd8b413565ac"
 "status": "Normal",
 "ha_status": "Primary",
 "role": "DN",
 "dws_db_instance_name": "dn_6006",
 "dws_db_instance_id": "8b232f4b-cef9-49b8-9207-cf863755d985"
 "status": "Normal",
 "ha status": "Secondary",
 "role": "DN",
 "dws_db_instance_name": "dn_3004",
 "dws_db_instance_id": "3c361040-1a63-4478-8004-145cce52f3f2"
 "status": "Normal",
 "ha status": "Primary",
 "role": "DN",
 "dws_db_instance_name": "dn_6007",
 "dws_db_instance_id": "bbe80999-1d12-4227-95a1-bafda6b5152f"
},
 "status": "Normal",
 "ha_status": "Standby",
 "role": "DN",
 "dws_db_instance_name": "dn_6008",
 "dws_db_instance_id": "a2dfcc9b-dee8-4774-88b9-83d08bd13dca"
 "status": "Normal",
 "ha_status": "Secondary",
 "role": "DN",
 "dws_db_instance_name": "dn_3005",
 "dws_db_instance_id": "03cee11e-065c-4c78-896e-6f15c36e671d"
 "status": "Normal",
 "ha_status": "Primary",
 "role": "DN",
 "dws_db_instance_name": "dn_6009",
 "dws_db_instance_id": "c747bc46-c6cd-416e-b1d9-e655ed693258"
 "status": "Normal",
 "ha_status": "Standby",
 "role": "DN",
 "dws_db_instance_name": "dn_6010",
 "dws_db_instance_id": "dd3eb3af-cca2-4697-86db-ce42b1f5548b"
 "status": "Normal",
 "ha_status": "Secondary",
 "role": "DN",
 "dws_db_instance_name": "dn_3006",
 "dws_db_instance_id": "a552fd98-9589-4d94-a592-7df20a9b9640"
 "status": "Normal",
 "ha_status": "Primary",
 "role": "DN",
 "dws_db_instance_name": "dn_6011",
 "dws_db_instance_id": "a17e5d33-96f6-49e3-9268-0a2531d28b79"
 "status": "Normal",
 "ha_status": "Standby",
```

```
"role": "DN",
     "dws_db_instance_name": "dn_6012",
     "dws_db_instance_id": "e44b721f-a91a-4e4c-a3d6-92e3c4e893b3"
     "status": "Normal",
     "ha_status": "Secondary",
     "role": "DN",
     "dws_db_instance_name": "dn_3007",
     "dws_db_instance_id": "641f44ee-2162-463e-a553-f810058a3b55"
   }
  ],
"dws_instances": [
     "dws_instance_id": "f061802d-fa79-40c4-9a1e-0e5254558f8a",
     "status": "ONLINE",
     "dws_instance_name": "host-192-168-12-203"
     "dws_instance_id": "590ddc05-f52d-4131-81ea-dd98c2426bab",
     "status": "ONLINE",
     "dws_instance_name": "host-192-168-62-138"
     "dws_instance_id": "080b9648-f53f-4003-bbfb-ba16f1354477",
     "status": "ONLINE",
     "dws_instance_name": "host-192-168-32-47"
   "cluster_id": "9c11a33a-64e6-40c1-93bd-01b2255b2228"
],
"project_id": "0ab77b46fc80d5342fbec0060ed6ee7c",
"timestamp": 1616679455633
```

#### Parameter description

**Table 5-734** Response parameter description

Parameter	Туре	Description
clusters	Array of ClusterStatus objects	Cluster list.
project_id	String	Resource Sets ID.
timestamp	Long	Response time (Unix timestamp), in milliseconds.

Table 5-735 ClusterStatus

Parameter	Туре	Description
cluster_id	String	Cluster ID.
dws_db_insta nces	Array of  DbInstanceS  tatus objects	Database instance status in a GaussDB(DWS) cluster.

Parameter	Туре	Description
dws_instance s	Array of InstanceStat us objects	GaussDB(DWS) cluster node status.
status	String	Cluster status

### Table 5-736 DbInstanceStatus

Parameter	Туре	Description
dws_db_insta nce_id	String	Database instance ID.
dws_db_insta nce_name	String	Database instance name.
ha_status	String	Primary/secondary status of a database instance.
role	String	Database instance role.
status	String	Database instance running status.

### Table 5-737 InstanceStatus

Parameter	Туре	Description
dws_instance _id	String	Cluster node ID.
dws_instance _name	String	Host name of a cluster node.
status	String	Cluster node running status.

## **Status Code**

- Normal
  - 200
- Exception

**Table 5-738** Returned values

Returned Value	Description
401 Unauthorized	Authorization failed

Returned Value	Description
403 Forbidden	You do not have the rights to perform the operation.
404 Not Found	No resources found.

# 5.18.2 Querying the Database Usage in a GaussDB(DWS) Cluster

### **Function**

This API is used to view the database usage in a cluster.

### URI

- URI format GET /v1/{project\_id}/dms/clusters/{cluster\_id}/database
- Parameter description

### Table 5-739 URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

# Request Message

Request example
 GET /v1/0ab77b46fc80d5342fbec0060ed6ee7c/dms/clusters/
 9c11a33a-64e6-40c1-93bd-01b2255b2228/database

# **Response Message**

```
{
    "databases": [
        {
            "db_name": "postgres",
            "deadlocks": 39195,
            "used_spaces": 0.63
        },
        {
            "db_name": "test",
            "deadlocks": 0,
            "used_spaces": 21.07
      }
```

```
],
"timestamp": 1616679478758,
"cluster_id": "9c11a33a-64e6-40c1-93bd-01b2255b2228"
}
```

# • Parameter description

Table 5-740 Response parameters

Parameter	Туре	Description
cluster_id	String	Cluster ID.
databases	Array of  DatabaseDa  ta objects	Database list.
timestamp	Long	Response time (Unix timestamp), in milliseconds.

Table 5-741 DatabaseData

Parameter	Туре	Description
db_name	String	Database name.
deadlocks	Long	Number of database deadlocks.
used_spaces	Float	Used database space, in GB.

### **Status Code**

- Normal
  - 200
- Exception

Table 5-742 Returned values

Returned Value	Description
401 Unauthorized	Authorization failed.
403 Forbidden	You do not have required permissions.
404 Not Found	No resources found.

# 5.18.3 Querying the Disk I/O Usage of Each Node in a GaussDB(DWS) Cluster

### **Function**

This API is used to view the disk I/O usage of each node in a cluster.

### **URI**

- URI format GET /v1/{project\_id}/dms/clusters/{cluster\_id}/disk-io
- Parameter description

Table 5-743 URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

# Request Message

• Request example
GET /v1/0ab77b46fc80d5342fbec0060ed6ee7c/dms/clusters/
9c11a33a-64e6-40c1-93bd-01b2255b2228/disk-io

# **Response Message**

```
"dws_instances": [
{
    "dws_instance_id": "080b9648-f53f-4003-bbfb-ba16f1354477",
  "disks": [
     "io_busy": 30.5,
     "disk": "vda"
     "io_busy": 3.29,
     "disk": "vdb"
     "io_busy": 1.23,
     "disk": "vdc"
     "io_busy": 3.29,
     "disk": "vdd"
  ]
  "dws_instance_id": "590ddc05-f52d-4131-81ea-dd98c2426bab",
  "disks": [
     "io_busy": 8.55,
     "disk": "vda"
     "io_busy": 0.0,
     "disk": "vdb"
```

```
{
    "io_busy": 1.22,
    "disk": "vdc"
},
{
    "io_busy": 0.0,
    "disk": "vdd"
}
},
{
    "dws_instance_id": "f061802d-fa79-40c4-9a1e-0e5254558f8a",
    "disks": [
    {
        "io_busy": 8.95,
        "disk": "vda"
    },
    {
        "io_busy": 6.51,
        "disk": "vdb"
    },
    {
        "io_busy": 2.44,
        "disk": "vdc"
    },
    {
        "io_busy": 0.4,
        "disk": "vdd"
}
},

"metric_name": "io_busy",
    "cluster_id": "9c11a33a-64e6-40c1-93bd-01b2255b2228",
    "dimension": "disklO",
    "timestamp": 1616679481109
}
}
```

### Parameter description

**Table 5-744** Response body parameters

Parameter	Туре	Description
cluster_id	String	Cluster ID.
dimension	String	Monitoring dimension ( <b>disk</b> ).
dws_instance s	Array of NodeDisklo Data objects	GaussDB(DWS) cluster node list.
metric_name	String	Monitoring metric.
timestamp	Long	Response time (Unix timestamp), in milliseconds.

Table 5-745 NodeDiskloData

Parameter	Туре	Description
disks	Array of  DiskloData objects	Disk I/O data of a node.
dws_instance _id	String	GaussDB(DWS) cluster node ID.

#### Table 5-746 DiskloData

Parameter	Туре	Description
disk	String	Disk.
io_busy	Double	Disk I/O busy rate.

### **Status Code**

Normal

200

• Exception

Table 5-747 Returned values

Returned Value	Description
401 Unauthorized	Authorization failed.
403 Forbidden	No operation permission.
404 Not Found	No resources found.

# 5.18.4 Querying the Disk I/O Usage of Each Node in a GaussDB(DWS) Cluster (Aggregate Data)

### **Function**

This API is used to view the disk I/O usage of each node in a cluster (aggregate data).

### URI

- URI format GET /v1/{project\_id}/dms/clusters/{cluster\_id}/disk-io/aggregate
- Parameter description

<b>Table</b>	5-748	URI	parameters
--------------	-------	-----	------------

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

# **Request Message**

- Request example
   GET /v1/0ab77b46fc80d5342fbec0060ed6ee7c/dms/clusters/
   9c11a33a-64e6-40c1-93bd-01b2255b2228/disk-io/aggregate?
   from=1615878320000&to=1615881868000
- Parameter description

**Table 5-749** Request parameters

Parameter	Mandatory	Туре	Description
from	Yes	Long	Start time of the aggregate query (Unix timestamp), in milliseconds.
to	Yes	Long	End time of the aggregate query (Unix timestamp), in milliseconds.

# **Response Message**

```
"dws_instances": [
{
   "dws_instance_id": "080b9648-f53f-4003-bbfb-ba16f1354477",
  "disks": [
     "disk": "vda",
     "max": 68.02,
"min": 5.34,
     "avg": 11.72,
     "skew": 82.77,
     "p95": 18.03,
     "median": 10.73
     "disk": "vdc",
     "max": 2.89,
     "min": 0.0,
     "avg": 0.54,
     "skew": 81.46,
     "p95": 2.05,
     "median": 0.4
```

```
{
    "disk": "vdb",
    "- 62 0.
     "max": 62.0,
"min": 0.0,
     "avg": 5.93,
     "skew": 90.43,
     "p95": 17.29,
     "median": 2.86
     "disk": "vdd",
     "max": 23.15,
     "min": 0.0,
     "avg": 2.83,
"skew": 87.78,
     "p95": 10.3,
     "median": 1.63
},
  "dws_instance_id": "590ddc05-f52d-4131-81ea-dd98c2426bab",
  "disks": [
  {
    "disk": "vda",
     "max": 103.67,
     "min": 4.89,
     "avg": 11.9,
"skew": 88.52,
     "p95": 19.97,
     "median": 10.67
    "disk": "vdc",
"max": 37.73,
"min": 0.0,
     "avg": 0.68,
     "skew": 98.19,
     "p95": 1.23,
     "median": 0.0
   },
     "disk": "vdb",
     "max": 12.2,
     "min": 0.0,
     "avg": 1.72,
     "skew": 85.93,
     "p95": 6.98,
     "median": 0.81
     "disk": "vdd",
"max": 52.96,
     "min": 0.0,
     "avg": 2.69,
"skew": 94.91,
     "p95": 9.88,
     "median": 1.22
},
"dws_instance_id": "f061802d-fa79-40c4-9a1e-0e5254558f8a",
     "disk": "vda",
     "max": 67.8,
     "min": 4.45,
```

```
"avg": 12.54,
"skew": 81.5,
       "p95": 38.26,
       "median": 10.55
      "disk": "vdc",
"max": 35.73,
"min": 0.0,
       "avg": 2.83,
       "skew": 92.08,
"p95": 8.94,
       "median": 1.61
       "disk": "vdb",
       "max": 17.46,
      "min": 0.0,
"avg": 2.56,
"skew": 85.36,
       "p95": 7.68,
       "median": 1.21
       "disk": "vdd",
"max": 37.84,
       "min": 0.0,
       "avg": 0.89,
       "skew": 97.66,
"p95": 2.02,
       "median": 0.4
"metric_name": "io_busy",
"dimension": "DiskIO",
"from": 1615878320000,
"to": 1615881868000
```

### • Parameter description

Table 5-750 Response body parameters

Parameter	Туре	Description
dimension	String	Monitoring dimension ( <b>disk</b> ).
dws_instance s	Array of NodeDisklo AggregateD ata objects	GaussDB(DWS) cluster node list.
from	Long	Start time of the aggregate query (Unix timestamp), in milliseconds.
metric_name	String	Monitoring metric.
to	Long	End time of the aggregate query (Unix timestamp), in milliseconds.

Table 5-751 NodeDiskloAggregateData

Parameter	Туре	Description
disks	Array of  DiskloAggre gateData objects	Disk I/O aggregate data of a node.
dws_instance _id	String	Cluster node ID.

Table 5-752 DiskloAggregateData

Parameter	Туре	Description
avg	Double	Average value of collected data within the request period.
disk	String	Disk.
max	Double	Maximum value of collected data within the request period.
median	Double	Median of collected data within the request period.
min	Double	Minimum value of collected data within the request period.
p95	Double	95th percentile of collected data within the request period.
skew	Double	Skew rate of collected data within the request period.

## **Status Code**

Normal

200

• Exception

Table 5-753 Returned values

Returned Value	Description
401 Unauthorized	Authorization failed.
403 Forbidden	No operation permission.
404 Not Found	No resources found.

# 5.18.5 Querying the File System Usage of Each Node in a GaussDB(DWS) Cluster

### **Function**

This API is used to view the file system usage of each node in a cluster.

#### URI

- **URI** format GET /v1/{project\_id}/dms/clusters/{cluster\_id}/file-system
- Parameter description

### Table 5-754 URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

# **Request Message**

Request example GET /v1/0ab77b46fc80d5342fbec0060ed6ee7c/dms/clusters/ 9c11a33a-64e6-40c1-93bd-01b2255b2228/file-system

# **Response Message**

```
"dws_instances": [
  "dws_instance_id": "080b9648-f53f-4003-bbfb-ba16f1354477",
  "file_system": [
     "usage": 21.09,
     "fs_name": "/dev/vda1"
     "usage": 13.16,
     "fs_name": "/dev/vdb"
     "usage": 4.74,
     "fs_name": "/dev/vdc"
     "usage": 11.03,
     "fs_name": "/dev/vdd"
```

```
"dws_instance_id": "590ddc05-f52d-4131-81ea-dd98c2426bab",
   "file_system": [
    {
    "usage": 15.35,
      "fs_name": "/dev/vda1"
      "usage": 11.65,
     "fs_name": "/dev/vdb"
      "usage": 3.94,
      "fs_name": "/dev/vdc"
      "usage": 11.08,
      "fs_name": "/dev/vdd"
   "dws_instance_id": "f061802d-fa79-40c4-9a1e-0e5254558f8a",
   "file_system": [
   "usage": 15.34,
     "fs_name": "/dev/vda1"
      "usage": 11.86,
     "fs_name": "/dev/vdb"
      "usage": 11.94,
      "fs_name": "/dev/vdc"
      "usage": 5.3,
"fs_name": "/dev/vdd"
 }
],
"metric_name": "io_busy",
"cluster_id": "9c11a33a-64e6-40c1-93bd-01b2255b2228", "dimension": "file_system",
"timestamp": 1616679487776
```

### • Parameter description

**Table 5-755** Response body parameters

Parameter	Туре	Description
cluster_id	String	Cluster ID.
dimension	String	Monitoring dimension ( <b>disk</b> ).
dws_instance s	Array of NodeFileSys temData objects	Cluster node list.
metric_name	String	Monitoring metric.

Parameter	Туре	Description
timestamp	Long	Response time (Unix timestamp), in milliseconds.

### Table 5-756 NodeFileSystemData

Parameter	Туре	Description
dws_instance _id	String	Cluster node ID.
file_system	Array of FileSystemD ata objects	File system data of a node.

### **Table 5-757** FileSystemData

Parameter	Туре	Description
fs_name	String	File system.
usage	Double	File system usage.

### **Status Code**

- Normal
  - 200
- Exception

### Table 5-758 Returned values

Returned Value	Description
401 Unauthorized	Authorization failed.
403 Forbidden	No operation permission.
404 Not Found	No resources found.

# 5.18.6 Querying the File System Usage of Each Node in a GaussDB(DWS) Cluster (Aggregate Data)

### **Function**

This API is used to view the file system usage of each node in a cluster (aggregate data).

### **URI**

- URI format GET /v1/{project\_id}/dms/clusters/{cluster\_id}/file-system/aggregate
- Parameter description

Table 5-759 URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

# **Request Message**

- Request example
   GET /v1/0ab77b46fc80d5342fbec0060ed6ee7c/dms/clusters/
   9c11a33a-64e6-40c1-93bd-01b2255b2228/file-system/aggregate?
   from=1615878320000&to=1615881868000
- Parameter description

Table 5-760 Request parameters

Parameter	Mandatory	Туре	Description
from	Yes	Long	Start time of the aggregate query (Unix timestamp), in milliseconds.
to	Yes	Long	End time of the aggregate query (Unix timestamp), in milliseconds.

# **Response Message**

```
{
    "dws_instances": [
    {
        "dws_instance_id": "080b9648-f53f-4003-bbfb-ba16f1354477",
        "file_system": [
        {
            "fs_name": "/dev/vda1",
            "max": 21.06,
            "min": 20.86,
            "avg": 20.96,
            "skew": 0.47,
            "p95": 21.05,
            "median": 20.97
    }
```

```
"fs_name": "/dev/vdd",
    "max": 11.03,
    "min": 11.03,
"avg": 11.03,
"skew": 0.0,
    "p95": 11.03,
     "median": 11.03
     "fs_name": "/dev/vdc",
     "max": 4.77,
    "min": 4.66,
    "avg": 4.7,
    "skew": 1.37,
"p95": 4.75,
    "median": 4.7
   },
     "fs_name": "/dev/vdb",
    "max": 13.16,
    "min": 13.15,
"avg": 13.15,
    "skew": 0.06,
     "p95": 13.16,
     "median": 13.15
  }
},
 "dws_instance_id": "590ddc05-f52d-4131-81ea-dd98c2426bab",
 "file_system": [
  {
  "fs_name": "/dev/vda1",
    "max": 14.99,
"min": 14.76,
    "avg": 14.87,
    "skew": 0.78,
     "p95": 14.98,
     "median": 14.87
   },
    "fs_name": "/dev/vdd",
"max": 10.77,
    "min": 10.76,
    "avg": 10.76,
"skew": 0.07,
    "p95": 10.77,
     "median": 10.76
     "fs_name": "/dev/vdc",
    "max": 3.6,
"min": 3.52,
    "avg": 3.56,
     "skew": 1.07,
     "p95": 3.59,
     "median": 3.56
    "fs_name": "/dev/vdb",
"max": 11.31,
    "min": 11.3,
"avg": 11.3,
    "skew": 0.09,
     "p95": 11.3,
     "median": 11.3
  }
```

```
{
  "dws_instance_id": "f061802d-fa79-40c4-9a1e-0e5254558f8a",
   "file_system": [
      "fs_name": "/dev/vda1",
      "max": 14.96,
      "min": 14.77,
"avg": 14.87,
      "skew": 0.61,
      "p95": 14.95,
       "median": 14.87
     },
      "fs_name": "/dev/vdd",
"max": 4.77,
      "min": 4.7,
      "avg": 4.75,
"skew": 0.51,
      "p95": 4.77,
       "median": 4.75
      "fs_name": "/dev/vdc",
      "max": 11.55,
"min": 11.55,
      "avg": 11.55,
      "skew": 0.0,
"p95": 11.55,
      "median": 11.55
       "fs_name": "/dev/vdb",
      "max": 11.47,
      "min": 11.46,
"avg": 11.46,
"skew": 0.07,
      "p95": 11.47,
       "median": 11.46
  ]
 }
],
"metric_name": "io_busy",
"cluster_id": "9c11a33a-64e6-40c1-93bd-01b2255b2228", "dimension": "file_system",
"from": 1615878320000,
"to": 1615881868000,
"timestamp": 1616679493093
```

• Parameter description

**Table 5-761** Response body parameters

Parameter	Туре	Description
cluster_id	String	Cluster ID.
dimension	String	Monitoring dimension (file_system).
dws_instance s	Array of NodeFileSys temAggrega teData objects	Cluster node list.

Parameter	Туре	Description
from	Long	Start time of the aggregate query (Unix timestamp), in milliseconds.
metric_name	String	Monitoring metric.
timestamp	Long	Response time (Unix timestamp), in milliseconds.
to	Long	End time of the aggregate query (Unix timestamp), in milliseconds.

 Table 5-762
 NodeFileSystemAggregateData

Parameter	Туре	Description
dws_instance _id	String	Cluster node ID.
file_system	Array of FileSystemA ggregateDat a objects	File system aggregate data of a node.

 Table 5-763
 FileSystemAggregateData

Parameter	Туре	Description
avg	Double	Average value of collected data within the request period.
fs_name	String	File system.
max	Double	Maximum value of collected data within the request period.
median	Double	Median of collected data within the request period.
min	Double	Minimum value of collected data within the request period.
p95	Double	95th percentile of collected data within the request period.
skew	Double	Skew rate of collected data within the request period.

### **Status Code**

- Normal
  - 200
- Exception

Table 5-764 Returned values

Returned Value	Description
401 Unauthorized	Authorization failed.
403 Forbidden	No operation permission.
404 Not Found	No resources found.

# 5.18.7 Querying the NIC Traffic of Each Node in a GaussDB(DWS) Cluster

## **Function**

This API can be called by open APIs to query the NIC traffic of each node in a cluster.

#### URI

- URI format GET /v1/{project\_id}/dms/clusters/{cluster\_id}/nic/traffic
- Parameter description

Table 5-765 URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

# **Request Message**

Request example
 GET /v1/0ab77b46fc80d5342fbec0060ed6ee7c/dms/clusters/
 9c11a33a-64e6-40c1-93bd-01b2255b2228/nic/traffic

# **Response Message**

```
"dws_instances": [
  "dws_instance_id": "080b9648-f53f-4003-bbfb-ba16f1354477",
  "nics": [
     "read": 0,
     "write": 0,
     "nic": "eth1"
   },
     "read": 79905,
     "write": 54244,
     "nic": "eth0"
     "read": 180413,
"write": 165144,
     "nic": "eth2"
     "read": 27504,
     "write": 91055,
     "nic": "eth3"
  "dws_instance_id": "590ddc05-f52d-4131-81ea-dd98c2426bab",
  "nics": [
   {
"read": 0,
     "write": 0,
     "nic": "eth1"
     "read": 46299,
     "write": 28979,
     "nic": "eth0"
   },
     "read": 261260,
     "write": 252183,
     "nic": "eth2"
     "read": 173241,
     "write": 617361,
"nic": "eth3"
},
  "dws_instance_id": "f061802d-fa79-40c4-9a1e-0e5254558f8a",
  "nics": [
     "read": 0,
     "write": 0,
     "nic": "eth1"
     "read": 35580,
     "write": 26989,
     "nic": "eth0"
```

```
"read": 337475,
    "write": 327973,
    "nic": "eth2"
    },
    {
        "read": 606132,
        "write": 88877,
        "nic": "eth3"
    }
    ]
}

// "metric_name": "traffic",
    "cluster_id": "9c11a33a-64e6-40c1-93bd-01b2255b2228",
    "dimension": "nic",
    "timestamp": 1616679485704
}
```

### • Parameter description

**Table 5-766** Response body parameters

Parameter	Туре	Description
cluster_id	String	Cluster ID.
dimension	String	Monitoring dimension ( <b>nic</b> ).
dws_instance s	Array of NodeNicTraff icData objects	Cluster node list.
metric_name	String	Monitoring metric.
timestamp	Long	Response time (Unix timestamp), in milliseconds.

Table 5-767 NodeNicTrafficData

Parameter	Туре	Description
dws_instance _id	String	Cluster node ID.
nics	Array of NicTrafficDa ta objects	NIC usage of a node.

Table 5-768 NicTrafficData

Parameter	Туре	Description
nic	String	NIC name.
read	Long	NIC read traffic.

Parameter	Туре	Description
write	Long	NIC write traffic.

### **Status Code**

- Normal
  - 200
- Exception

Table 5-769 Returned values

Returned Value	Description
401 Unauthorized	Authorization failed.
403 Forbidden	No operation permission.
404 Not Found	No resources found.

# 5.18.8 Querying the Query Execution Status in a GaussDB(DWS) Cluster

### **Function**

This API is used to query SQL statements in a cluster.

### URI

- URI format GET /v1/{project\_id}/dms/clusters/{cluster\_id}/query
- Parameter description

Table 5-770 URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

## **Request Message**

Request example

GET /v1/0ab77b46fc80d5342fbec0060ed6ee7c/dms/clusters/9c11a33a-64e6-40c1-93bd-01b2255b2228/query

### **Response Message**

```
"queries": [
"query": "select count(*) \r\nfrom store_sales\r\n ,household_demographics \r\n ,time_dim, store\r\nwhere ss_sold_time_sk = time_dim.t_time_sk \r\n and ss_hdemo_sk =
= 8\r\n and time_dim.t_minute >= 30\r\n and household_demographics.hd_dep_count = 5\r\n
and store.s_store_name = 'ese'\r\norder by count(*)\r\nlimit 100;",
    "max_cpu_time": 0,
    "min_cpu_time": 0,
    "total_cpu_time": 0,
"cpu_skew": 0,
    "max_peak_mem": 11,
    "min_peak_mem": 11,
    "avg_peak_mem": 11,
    "mem_skew": 0,
    "max_spill_size": 0,
    "min_spill_size": 0,
    "avg_spill_size": 0,
    "spill_skew": 0,
    "max_peak_iops": 0,
    "min_peak_iops": 0,
    "avg_peak_iops": 0,
    "iops_skew": 0,
    "db_name": "test"
    "application": "gsql",
    "query_id": "79657418412457882"
    "query": "WITH web_v1 as (\r\nselect\r\n ws_item_sk item_sk, d_date,\r\n
sum(sum(ws_sales_price))\r\n over (partition by ws_item_sk order by d_date rows between
unbounded preceding and current row) cume_sales\r\nfrom web_sales\r\n ,date_dim\r\nwhere
ws_sold_date_sk=d_date_sk\r\n and d_month_seq between 1212 and 1212+11\r\n and ws_item_sk is
not NULL\r\ngroup by ws_item_sk, d_date),\r\nstore_v1 as (\r\nselect\r\n ss_item_sk item_sk,
d_date,\r\n sum(sum(ss_sales_price))\r\n
                                           over (partition by ss_item_sk order by d_date rows
between unbounded preceding and current row) cume_sales\r\nfrom store_sales\r\n ,date_dim\r
\nwhere ss_sold_date_sk=d_date_sk\r\n and d_month_seq between 1212 and 1212+11\r\n and
ss_item_sk is not NULL\r\ngroup by ss_item_sk, d_date)\r\n select *\r\nfrom (select item_sk\r
    ,d_date\r\n
                  ,web_sales\r\n
                                   ,store_sales\r\n
                                                    ,max(web_sales)\r\n
item sk order by d date rows between unbounded preceding and current row) web cumulative\r
    ,max(store_sales)\r\n
                               over (partition by item_sk order by d_date rows between unbounded
preceding and current row) store_cumulative\r\n from (select case when web.item_sk is not null
then web.item_sk else store.item_sk end item_sk\r\n
                                                             ,case when web.d_date is not null
then web.d_date else store.d_date end d_date\r\n
                                                          ,web.cume_sales web_sales\r
             ,store.cume_sales store_sales\r\n
                                                   from web_v1 web full outer join store_v1 store
on (web.item_sk = store.item_sk\r\n
                                                                        and web.d_date =
store.d date)\r\n
                      )x )y\r\nwhere web_cumulative > store_cumulative\r\norder by item_sk\r
       ,d date\r\nlimit 100;",
    "max_cpu_time": 487,
    "min_cpu_time": 1,
    "total_cpu_time": 1435,
    "cpu_skew": 50,
    "max_peak_mem": 37,
    "min peak mem": 21,
    "avg_peak_mem": 28,
    "mem skew": 24,
    "max_spill_size": 0,
    "min_spill_size": 0,
    "avg_spill_size": 0,
    "spill_skew": 0,
    "max_peak_iops": 0,
    "min_peak_iops": 0,
    "avg_peak_iops": 0,
```

```
"iops_skew": 0,
    "db_name": "test",
    "application": "gsql",
    "query_id": "79657418412457869"
    }
},
"timestamp": 1616679496270,
"cluster_id": "9c11a33a-64e6-40c1-93bd-01b2255b2228"
}
```

## Parameter description

**Table 5-771** Response body parameters

Parameter	Туре	Description
cluster_id	String	Cluster ID.
queries	Array of QueryData objects	Query list.
timestamp	Long	Response time (Unix timestamp), in milliseconds.

Table 5-772 QueryData

Parameter	Туре	Description
application	String	Name of the application that is connected to the backend.
avg_peak_iop s	Integer	Average IOPS peak of a statement across all DNs. It is counted by ones in a column-store table and by ten thousands in a row-store table.
avg_peak_m em	Integer	Average memory usage during statement execution, in MB.
avg_spill_size	Integer	Average spilled data among all DNs when a spill occurs, in MB. The default value is <b>0</b> .
cpu_skew	Integer	CPU time skew of a statement among DNs.
db_name	String	Database name.
iops_skew	Integer	I/O skew of a statement among DNs.
max_cpu_tim e	Integer	Maximum CPU time of a statement across all DNs, in milliseconds.
max_peak_io ps	Integer	Maximum IOPS peak of a statement across all DNs. It is counted by ones in a column-store table and by ten thousands in a rowstore table.

Parameter	Туре	Description
max_peak_m em	Integer	Maximum memory peak of a statement across all DNs, in MB.
max_spill_siz e	Integer	Maximum spilled data among all DNs when a spill occurs, in MB. The default value is <b>0</b> .
mem_skew	Integer	Memory usage skew of a statement among DNs.
min_cpu_tim e	Integer	Minimum CPU time of a statement across all DNs, in milliseconds.
min_peak_io ps	Integer	Minimum IOPS peak of a statement across all DNs. It is counted by ones in a column-store table and by ten thousands in a rowstore table.
min_peak_m em	Integer	Minimum memory peak of a statement across all DNs, in MB.
min_spill_siz e	Integer	Minimum spilled data among all DNs when a spill occurs, in MB. The default value is <b>0</b> .
query	String	Query SQL.
query_id	String	Query ID.
spill_skew	Integer	DN spill skew.
total_cpu_ti me	Integer	Total CPU time of a statement across all DNs, in milliseconds.

## **Status Code**

- Normal
  - 200
- Exception

Table 5-773 Returned values

Returned Value	Description
401 Unauthorized	Authorization failed.
403 Forbidden	No operation permission.
404 Not Found	No resources found.

# 5.18.9 Querying the Session Execution Status in a GaussDB(DWS) Cluster

### **Function**

This API is used to query the session execution status in a cluster.

#### **URI**

- URI format GET /v1/{project\_id}/dms/clusters/{cluster\_id}/session
- Parameter description

### Table 5-774 URI parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID.
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

# Request Message

Request example
GET /v1/0ab77b46fc80d5342fbec0060ed6ee7c/dms/clusters/
9c11a33a-64e6-40c1-93bd-01b2255b2228/session

# **Response Message**

```
"pid": "140121610303232",
  "user_name": "Ruby",
"inst_name": "cn_5009",
   "application_name": "cm_agent",
   "query_total": 1
   "pid": "140121640716032",
   "user_name": "Ruby",
   "inst_name": "cn_5009"
   "application_name": "OM",
   "query_total": 1
   "pid": "140121677944576",
  "user_name": "Ruby",
"inst_name": "cn_5009",
   "application_name": "WLMArbiter",
   "query_total": 1
   "pid": "140121694725888",
  "user_name": "Ruby",
   "inst_name": "cn_5009"
   "application_name": "WorkloadMonitor",
   "query_total": 1
   "pid": "140121711507200",
   "user_name": "Ruby",
   "inst_name": "cn_5009",
   "application_name": "CalculateSpaceInfo",
   "query_total": 1
   "pid": "140121728288512",
  "user_name": "Ruby",
"inst_name": "cn_5009",
"application_name": "workload",
   "query_total": 1
   "pid": "140121857287936",
  "user_name": "Ruby",
"inst_name": "cn_5009",
  "application_name": "JobScheduler",
   "query_total": 1
}
"cluster_id": "9c11a33a-64e6-40c1-93bd-01b2255b2228",
"dimension": "session",
"timestamp": 1616679498380
```

Parameter description

Table 5-775 Response body parameters

Parameter	Туре	Description	
cluster_id	String	Cluster ID.	
dimension	String	Monitoring dimension (session).	

Parameter	Туре	Description
sessions	Array of SessionData objects	Session list.
timestamp	Long	Response time (Unix timestamp), in milliseconds.

Table 5-776 SessionData

Parameter	Туре	Description
application_n ame	String	User application name.
elapsed_time	Long	Session execution duration.
inst_name	String	Name of the instance executed in the current session.
pid	String	Session ID.
query_elapse d_time	Long	Actual execution duration of the statement, in seconds.
query_total	Integer	Total number of queries.
user_name	String	Database username.

# **Status Code**

- Normal
  - 200
- Exception

**Table 5-777** Returned values

Returned Value	Description	
401 Unauthorized	Authorization failed.	
403 Forbidden	No operation permission.	
404 Not Found	No resources found.	

# 5.18.10 Querying the GaussDB(DWS) Hardware Resource Usage

## **Function**

This API is used to query the real-time usage of hardware resources including clusters, nodes, and instances.

### **URI**

- URI format GET /v1/{project\_id}/dms/resource/utilization
- Parameter description

## Table 5-778 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

# **Request Message**

- Sample request
  GET /v1/0ab77b46fc80d5342fbec0060ed6ee7c/dms/resource/utilization?
  dim=cluster&cluster\_id=f8b08290-6a16-423e-9de5-918630e3aa41&metric\_name=cpu\_usage
- Parameter description

Table 5-779 Request parameters

Parameter	Mandatory	Туре	Description
cluster_id	No	String	Cluster ID. For details about how to obtain the ID, see  Obtaining the Cluster ID. If this parameter is not set, the status of all clusters under project_id is returned. If this parameter is set, the status of the specified cluster is returned.
dim	Yes	String	Specified dimensions:
metric_name	Yes	String	Monitoring items: cpu_usage or mem_usage

#### **Response Message**

• Example response

• Parameter description

**Table 5-780** Response body parameters

Parameter	Туре	Description
clusters	Array of ResourceUtil izationData objects	Cluster list.
dimension	String	Monitoring dimension.
metric_name	String	Monitoring metric.
project_id	String	Resource Sets ID.
timestamp	Long	Response time (Unix timestamp), in milliseconds.

Table 5-781 ResourceUtilizationData

Parameter	Туре	Description
cluster_id	String	Cluster ID.
data	Array of UtilizationD ata objects	Utilization data.

Table 5-782 UtilizationData

Parameter	Туре	Description
id	String	Resource ID: cluster/node ID.

Parameter	Туре	Description
total	Double	Total resources.
usage	Double	Resource usage.
used	Double	Used resources.

#### **Status Code**

- Normal
  - 200
- Exception

Table 5-783 Returned values

Returned Value	Description
401 Unauthorized	Authorization failed
403 Forbidden	You do not have the rights to perform the operation.
404 Not Found	No resources found.

## 5.18.11 Querying the Hardware Resource Usage in a GaussDB(DWS) Cluster (Aggregate Data)

#### **Function**

This API can be called by open APIs to query hardware resources (aggregated data).

#### URI

- URI format GET /v1/{project\_id}/dms/resource/utilization/aggregate
- Parameter description

Table 5-784 URI parameters

Parameter	Mandatory	Туре	Description
project_id	Yes	String	Resource Sets ID. For details about how to obtain the ID, see Obtaining Resource Sets ID.

#### **Request Message**

- Request example
  GET /v1/0ab77b46fc80d5342fbec0060ed6ee7c/dms/resource/utilization/aggregate?
  dim=node&cluster\_id=9c11a33a-64e6-40c1-93bd-01b2255b2228&metric\_name=mem\_usage&from=16
  15878320000&to=1615881868000
- Parameter description

**Table 5-785** Request parameters

Parameter	Mandatory	Туре	Description
cluster_id	Yes	String	Cluster ID. For details about how to obtain the ID, see Obtaining the Cluster ID.
dim	No	String	Specified dimensions:
			• cluster
			• node
from	Yes	Long	Start time of the aggregate query (Unix timestamp), in milliseconds.
metric_name	Yes	String	Monitoring items: cpu_usage and mem_usage
to	Yes	Long	End time of the aggregate query (Unix timestamp), in milliseconds.

#### **Response Message**

Example response

```
"clusters": [
{
    "data": [
   max": 91.93,
     "min": 89.67,
     "avg": 90.3,
     "skew": 1.77,
"p95": 91.15,
     "median": 90.31,
     "id": "080b9648-f53f-4003-bbfb-ba16f1354477"
     "max": 91.22,
     "min": 89.34,
"avg": 89.99,
     "skew": 1.35,
     "p95": 90.83,
     "median": 89.92,
     "id": "590ddc05-f52d-4131-81ea-dd98c2426bab"
      "max": 91.47,
     "min": 89.41,
     "avg": 90.02,
```

```
"skew": 1.58,
    "p95": 90.7,
    "median": 89.99,
    "id": "f061802d-fa79-40c4-9a1e-0e5254558f8a"
    }
    ],
    "cluster_id": "9c11a33a-64e6-40c1-93bd-01b2255b2228"
    }
    ],
    "metric_name": "mem_usage",
    "dimension": "cluster",
    "from": 1615878320000,
    "to": 1615881868000,
    "timestamp": 1616679470337
}
```

#### Parameter description

**Table 5-786** Response body parameters

Parameter	Туре	Description
avg	Double	Average value of collected data within the request period.
clusters	Array of ResourceUtil izationAggr egateData objects	Cluster list.
dimension	String	Monitoring dimension.
from	Long	Start time of the aggregate query (Unix timestamp), in milliseconds.
id	String	Resource ID: cluster/node ID.
max	Double	Maximum value of collected data within the request period.
median	Double	Median of collected data within the request period.
metric_name	String	Monitoring metric.
min	Double	Minimum value of collected data within the request period.
p95	Double	95th percentile of collected data within the request period.
skew	Double	Skew rate of collected data within the request period.
timestamp	Long	Response time (Unix timestamp), in milliseconds.
to	Long	End time of the aggregate query (Unix timestamp), in milliseconds.

 Table 5-787 ResourceUtilizationAggregateData

Parameter	Туре	Description
cluster_id	String	Cluster ID.
data	Array of UtilizationA ggregateDat a objects	Utilization aggregate data.

 Table 5-788
 UtilizationAggregateData

Parameter	Туре	Description
avg	Double	Average value of collected data within the request period.
clusters	Array of ResourceUtil izationAggr egateData objects	Cluster list.
dimension	String	Monitoring dimension.
from	Long	Start time of the aggregate query (Unix timestamp), in milliseconds.
id	String	Resource ID: cluster/node ID.
max	Double	Maximum value of collected data within the request period.
median	Double	Median of collected data within the request period.
metric_name	String	Monitoring metric.
min	Double	Minimum value of collected data within the request period.
p95	Double	95th percentile of collected data within the request period.
skew	Double	Skew rate of collected data within the request period.
timestamp	Long	Response time (Unix timestamp), in milliseconds.
to	Long	End time of the aggregate query (Unix timestamp), in milliseconds.

#### **Status Code**

- Normal200
- Exception

Table 5-789 Returned values

Returned Value	Description
401 Unauthorized	Authorization failed.
403 Forbidden	No operation permission.
404 Not Found	No resources found.

# **6** Appendix

## 6.1 Status Code

Table 6-1 describes the status code.

Table 6-1 Status code

Status Code	Code	Description
100	Continue	The client continues sending the request.
		This interim response is used to inform the client that the initial 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.
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	The server successfully processed the request, but is returning information that may be from another source.
204	NoContent	The server has successfully processed the request, but has not returned any content.
		The status code is returned in response to an HTTP OPTIONS request.

Status Code	Code	Description
205	Reset Content	The server has fulfilled the request, but the requester is required to reset the content.
206	Partial Content	The server has processed certain GET requests.
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	Retrieve a location.
		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	Invalid request.
		The client should not repeat the request without modifications.
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 server understood the request, but is refusing to fulfill it.  The client should not repeat the request without modifications.
404	NotFound	The requested resource cannot be found. The client should not repeat the request without modifications.

Status Code	Code	Description	
405	MethodNotAllowed	The method specified in the request is not supported for the requested resource.  The client should not repeat the request without modifications.	
406	Not Acceptable	The server cannot fulfill the request according to the content characteristics of the request.	
407	Proxy Authentication Required	This status code is similar to 401, but indicates that the client must first authenticate itself with the proxy.	
408	Request Time-out	The request timed out.  The client may repeat the request without modifications at any later time.	
409	Conflict	The request could not be completed 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 request fails to be processed because of the update of the conflict request.	
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.	

Status Code	Code	Description
422	UnprocessableEnti- ty	The request is well-formed but is unable to be processed due to semantic errors.
429	TooManyRequests	The client has sent more requests than its rate limit is allowed within a given amount of time, or the server has received more requests than it is able to process within a given amount of time. In this case, it is advisable for the client to re-initiate requests after the time specified in the Retry-After header of the response expires.
500	InternalServerError	The server is able to receive the request but it could not understand the request.
501	Not Implemented	The server does not support the requested function.
502	Bad Gateway	The server is acting as a gateway or proxy and receives an invalid request from a remote server.
503	ServiceUnavailable	The requested service is invalid. The client should not repeat the request without modifications.
504	ServerTimeout	The request cannot be fulfilled within a given time. This status code is returned to the client only when the <b>Timeout</b> parameter is specified in the request.
505	HTTP Version not supported	The server does not support the HTTP protocol version used in the request.

## **6.2 Error Code**

No data is returned if an API fails to be called. You can locate the cause of error according to the error code of each API. When the calling fails, HTTP status code 4xx or 5xx is returned. The returned message body contains the specific error code and error information. If you fail to locate the cause of error, contact the database administrator and technical support and provide the error code so that we can help you solve the problem as soon as possible.

Table 6-2 Error code

Sta tus Cod e	Error Code	Error Information	Description	Solution
400	DWS.5 001	Invalid instance name.	Invalid instance name.	Enter a valid instance name according to the instance name description and try again later.
400	DWS.5 002	Invalid database type.	Invalid database type.	Enter a valid database type according to the database parameter description and try again later.
400	DWS.5 003	Invalid database version.	Invalid database version.	Enter a valid database version according to the database parameter description and try again later.
400	DWS.5 004	Empty datastore field.	Empty datastore field.	Enter the correct datastore according to the actual situation and try again later.
400	DWS.5 005	Database type or version not supported.	Database type or version not supported.	Enter a valid database type and version according to the database parameter description and try again later.
400	DWS.5 006	Invalid specifications.	Invalid specifications.	Select the correct flavor and try again later.
400	DWS.5 010	Invalid region.	Invalid region.	Select a valid region and try again.
400	DWS.5 011	Invalid AZ.	Invalid AZ.	Select a valid AZ and try again.
400	DWS.5 012	The region or AZ does not exist.	The region or AZ does not exist.	Enter a correct region or AZ and try again later.
400	DWS.5 013	Invalid password of database <b>root</b> .	Invalid password of database root.	Enter a valid password according to the password description.
400	DWS.5 014	Invalid VPC ID.	Invalid VPC ID.	Enter a valid ID according to the description of parameter <b>vpc_id</b> .

Sta tus Cod e	Error Code	Error Information	Description	Solution
400	DWS.5 015	Invalid subnet ID.	Invalid subnet ID.	Enter a valid ID according to the description of parameter <b>subnet_id</b> .
400	DWS.5 016	Invalid security group ID.	Invalid security group ID.	Enter a valid ID according to the description of the security group ID parameter.
400	DWS.5 017	Invalid retention period of automated backups.	Invalid retention period of automated backups.	Enter a proper retention period and try again later.
400	DWS.5 018	Invalid automated backup period.	Invalid automated backup period.	Enter a proper automated backup period and try again later.
404	DWS.5 021	The VPC does not exist or does not belong to the user.	The VPC does not exist or does not belong to the user.	Enter a correct VPC and try again later.
404	DWS.5 022	The subnet does not exist or does not belong to the VPC.	The subnet does not exist or does not belong to the VPC.	Enter a correct subnet and try again later.
404	DWS.5 023	The security group does not exist or does not belong to the VPC.	The security group does not exist or does not belong to the VPC.	Enter a correct security group and try again later.
400	DWS.5 027	Invalid AZ.	Invalid AZ.	Enter a correct AZ and try again later.
400	DWS.5 033	The volume size is not a multiple of 10.	The volume size is not a multiple of 10.	Enter a valid size and try again.
400	DWS.5 034	Flavors do not match.	Flavors do not match.	Select a correct flavor and try again.

Sta tus Cod e	Error Code	Error Information	Description	Solution
403	DWS.5 036	Datastore does not exist or does not have sufficient permissions.	Datastore does not exist or does not have sufficient permissions.	Enter a correct Datastore and try again.
400	DWS.5 037	The parameter does not exist.	The parameter does not exist.	Enter a valid parameter and try again.
400	DWS.5 038	The parameter value is out of range.	The parameter value is out of range.	Enter a valid parameter and try again.
400	DWS.5 039	Duplicate parameters.	Duplicate parameters.	Enter a valid parameter and try again.
400	DWS.5 045	The current tenant is not allowed to perform this operation.	The current tenant is not allowed to perform this operation.	Ensure that the current tenant is the same as the tenant to which the cluster belongs and try again.
400	DWS.5 046	nics is left black.	nics is left black.	Enter a correct nics and try again.
400	DWS.5 047	Invalid instance quantity.	Invalid instance quantity.	Enter a correct instance quantity.
400	DWS.5 048	Invalid extended parameter.	Invalid extended parameter.	Enter a valid extended parameter according to the corresponding description of the extended parameter.
409	DWS.5 050	The cluster name already exists.	The cluster name already exists.	Enter a correct cluster name and try again later.
400	DWS.5 051	Invalid IP address.	Invalid IP address.	Enter a valid IP address and try again.
400	DWS.5 052	Invalid value of the AZ.	Invalid value of the AZ.	Enter a correct AZ and try again later.
400	DWS.5 053	The value of locality between instances is invalid.	The value of locality between instances is invalid.	Enter a correct locality value and try again later.

Sta tus Cod e	Error Code	Error Information	Description	Solution
400	DWS.5 054	The parameter group ID is invalid.	The parameter group ID is invalid.	Enter a correct parameter group ID and try again later.
400	DWS.5 056	Invalid string length.	Invalid string length.	Enter a valid string and try again.
400	DWS.5 057	The cluster name pattern is invalid.	The cluster name pattern is invalid.	Enter a valid cluster name according to the cluster name description.
400	DWS.5 059	Database username contains invalid characters.	Database username contains invalid characters.	Enter a valid database username according to the database username description.
400	DWS.5 060	Integer type is of wrong range.	Integer type is of wrong range.	Enter a valid Integer type and try again later.
400	DWS.5 061	The volume type is illegal.	The volume type is illegal.	Enter a valid volume type and try again later.
400	DWS.5 062	The volume tag is illegal.	The volume tag is illegal.	Enter a valid volume tag and try again later.
400	DWS.5 063	Invalid Specific field.	Invalid Specific field.	Enter a correct Specific value and try again later.
400	DWS.5 064	Invalid UUID.	Invalid UUID.	Enter a valid UUID and try again.
400	DWS.5 065	Invalid format.	Invalid format.	Use a valid format and try again.
400	DWS.5 070	Flavor ref is invalid in xml.	Flavor ref is invalid in xml.	Enter correct flavor ref and try again later.
400	DWS.5 071	The volume type is invalid in XML.	The volume type is invalid in XML.	Enter a correct disk type and try again later.
400	DWS.5 078	Invalid disk size.	Invalid disk size.	Enter a valid disk size and try again later.
400	DWS.5 079	The backup period is not permitted.	The backup period is not permitted.	Enter a proper backup period and try again later.
400	DWS.5 080	The backup retention period is not permitted.	The backup retention period is not permitted.	Enter a proper backup retention duration and try again later.

Sta tus Cod e	Error Code	Error Information	Description	Solution
400	DWS.5 081	The instance disk type is not allowed.	The instance disk type is not allowed.	Select a valid instance type and try again.
400	DWS.5 082	The database user name is not supported.	The database user name is not supported.	Enter a valid database username according to the database username description.
400	DWS.5 083	Invalid affinity in the XML configuration.	Invalid affinity in the XML configuration.	Enter a valid affinity value and try again.
400	DWS.5 084	Incorrect volume configuration in the XML file.	Incorrect volume configuration in the XML file.	Enter a correct volume value and try again later.
400	DWS.5 086	The same instance type does not meet flavor consistency requirements.	The same instance type does not meet flavor consistency requirements.	Enter the correct flavor and try again later.
400	DWS.5 087	The same instance type does not meet disk consistency requirements.	The same instance type does not meet disk consistency requirements.	Enter a correct disk and try again later.
400	DWS.5 089	Unsupported type.	Unsupported type.	Enter a supported type and try again.
400	DWS.5 091	The number of nodes has reached the maximum.	The number of nodes has reached the maximum.	Enter a valid node quantity and try again.
400	DWS.5 093	Flavor information is invalid.	Flavor information is invalid.	Enter valid flavor information and try again later.
400	DWS.5 095	The current instance type does not support this operation.	The current instance type does not support this operation.	Select a correct instance type and try again.

Sta tus Cod e	Error Code	Error Information	Description	Solution
400	DWS.5 096	Invalid disk quantity.	Invalid disk quantity.	Enter valid disk quantity and try again later.
400	DWS.5 097	Region or AZ does not exist.	Region or AZ does not exist.	Enter a correct region or AZ and try again later.
400	DWS.5 098	Invalid EIP binding type.	Invalid EIP binding type.	Enter a correct EIP binding type and try again later.
400	DWS.5 104	The subnet of an instance must be unique.	The subnet of an instance must be unique.	Ensure that the subnet of the instance is unique and try again.
400	DWS.5 106	Invalid instance type.	Invalid instance type.	Enter a valid instance type and try again later.
400	DWS.5 107	Invalid cluster mode.	Invalid cluster mode.	Enter a valid disk mode and try again later.
400	DWS.5 111	The backup file ID does not exist.	The backup file ID does not exist.	Enter a correct backup file ID and try again later.
400	DWS.5 130	Invalid agency name.	Invalid agency name.	Enter a valid agency name and then try again.
400	DWS.5 133	Invalid EIP ID.	Invalid EIP ID.	Enter a valid EIP ID and try again.
400	DWS.5 135	The EIP does not exist.	The EIP does not exist.	Enter a valid EIP and try again.
400	DWS.5 144	Invalid password of the cluster administrator.	Invalid password of the cluster administrator.	Enter a valid cluster administrator password according to the description of the cluster administrator's password.
400	DWS.5 145	The cluster administrator password cannot contain the username, or the username spelled backwards.	The cluster administrator password cannot contain the username, or the username spelled backwards.	Enter a valid cluster administrator password as prompted and try again later.

Sta tus Cod e	Error Code	Error Information	Description	Solution
400	DWS.5 146	The ECS group parameter is missing.	The ECS group parameters is missing.	Enter a valid parameter and try again.
400	DWS.5 147	Invalid ECS group parameter.	Invalid ECS group parameter.	Enter a valid parameter and try again.
400	DWS.5 148	The number of ECS groups has reached the upper limit.	The number of ECS groups has reached the upper limit.	Enter a valid ECS group quantity and try again.
400	DWS.5 149	The snapshot ID is invalid.	The snapshot ID is invalid.	Enter a valid snapshot ID according to the snapshot ID description.
400	DWS.5 165	Invalid null content in the data file.	Invalid null content in the data file.	Enter the correct control content and try again later.
400	DWS.5 166	Invalid noescaping parameter in text format	Invalid noescaping parameter in text format	Enter the correct noescaping parameter and try again later.
400	DWS.5 167	Invalid header parameter in the data file. The supported values are true/on and false/off.	Invalid header parameter in the data file. The supported values are true/on and false/off.	Enter the correct header parameter and try again later.
400	DWS.5 168	Invalid fill_missing_fie lds parameter in the data file. The supported values are true/on and false/off.	Invalid fill_missing_fiel ds parameter in the data file. The supported values are true/on and false/off.	Enter the correct fill_missing_fields parameter and try again later.

Sta tus Cod e	Error Code	Error Information	Description	Solution
400	DWS.5 169	Invalid ignore_extra_d ata parameter in the data file. The supported values are true/on and false/off.	Invalid ignore_extra_da ta parameter in the data file. The supported values are true/on and false/off.	Enter the correct ignore_extra_data parameter and try again later.
400	DWS.5 170	Invalid number of incorrect data formats during data import.	Invalid number of incorrect data formats during data import.	Enter the correct number of incorrect data formats and try again later.
400	DWS.5 171	Invalid username or password for logging in to the database.	Invalid username or password for logging in to the database.	Enter the correct username or password and try again later.
400	DWS.5 172	The database does not exist.	The database does not exist.	Enter the correct database name and try again later.
400	DWS.5 173	The schema where the database table resides does not exist.	The schema where the database table resides does not exist.	Enter a correct schema and try again later.
400	DWS.5 174	The database table does not exist.	The database table does not exist.	Enter the correct database table and try again later.
400	DWS.5 175	The database username cannot be blank.	The database username cannot be blank.	Enter the username and try again later.
400	DWS.5 176	The password corresponding to the database username cannot be blank.	The password corresponding to the database username cannot be blank.	Enter the password and try again later.

Sta tus Cod e	Error Code	Error Information	Description	Solution
400	DWS.5 177	Name of the database where the table to which data is loaded is located cannot be blank.	Name of the database where the table to which data is located cannot be blank.	Enter the database name and try again later.
400	DWS.5 178	Schema where the table to which data is loaded is located cannot be blank.	Schema where the table to which data is loaded is located cannot be blank.	Enter the schema and try again later.
400	DWS.5 179	Database table to which data is loaded cannot be blank.	Database table to which data is loaded cannot be blank.	Enter the database table and try again later.
400	DWS.5 180	Invalid path for OBS file loading.	Invalid path for OBS file loading.	Enter a correct OBS loading path and try again later.
400	DWS.5 181	Failed to load data. The error information is #failedReason#	Failed to load data. The error information is #failedReason#.	Rectify the fault according to the error information and try again later.
400	DWS.5 182	The current job is stopped.	The current job is stopped.	Select a loading job and cancel it.
400	DWS.5 183	The current job has been canceled.	The current job has been canceled.	Select a loading job and cancel it.
400	DWS.5 184	Invalid format of the data source file. The supported file formats are CSV and TEXT.	Invalid format of the data source file. The supported file formats are CSV and TEXT.	Enter a correct data source file format and try again later. The supported file formats are CSV and TEXT.

Sta tus Cod e	Error Code	Error Information	Description	Solution
400	DWS.5 185	Invalid encoding format of the data file. The supported file formats are GBK, UTF8, Latin1, and SQL_ASCII.	Invalid encoding format of the data file. The supported file formats are GBK, UTF8, Latin1, and SQL_ASCII.	Enter a correct encoding format and try again later. The supported file formats are GBK, UTF8, Latin1, and SQL_ASCII.
400	DWS.5 186	Invalid field delimiter of row data in a data source file.	Invalid field delimiter of row data in a data source file.	Enter a correct field delimiter and try again later.
400	DWS.5 187	Invalid quote character for a CSV file.	Invalid quote character for a CSV file.	Enter a correct quote character and try again later.
400	DWS.5 189	Failed to obtain the AK/SK.	Failed to obtain the AK/SK.	Contact the database administrator or try again later.
400	DWS.5 191	The tag does not exist.	The tag does not exist.	Enter the correct tag and try again later.
400	DWS.5 194	The number of tags exceeds the maximum value.	The number of tags exceeds the maximum value.	Verify the number of tags for the resource and try again later.
400	DWS.5 197	The tag is invalid.	The tag is invalid.	Enter the correct tag and try again later.
400	DWS.5 198	Invalid username.	Invalid username.	Enter a correct username and try again.
400	DWS.5 199	Invalid password.	Invalid password.	Enter a valid password and try again.
400	DWS.5 200	The current flavor has inadequate resources. Switch to another AZ or region.	The current flavor has inadequate resources. Switch to another AZ or region.	Create a cluster of another flavor or switch to another AZ or region.

Sta tus Cod e	Error Code	Error Information	Description	Solution
400	DWS.5 202	The subnet ID cannot be left blank.	The subnet ID cannot be left blank.	Enter a correct subnet ID and try again later.
400	DWS.5 203	The security group ID cannot be left blank.	The security group ID cannot be left blank.	Enter a valid security group ID and try again later.
400	DWS.5 206	Databases of this version do not support the function.	Databases of this version do not support the function.	Ensure that the API parameters match the cluster version. If the parameters do not match the version, correct the parameters and try again.

## 6.3 Creating a VPC

#### Background

Before creating a cluster, you need to create a VPC to provide a secure and isolated network environment for using GaussDB(DWS).

If you have already created a VPC, you do not need to create it again.

#### ■ NOTE

For details about how to create a VPC, see **Creating a VPC** in the *Virtual Private Cloud User Guide*.

#### **Procedure**

- **Step 1** Log in to the management console.
- Step 2 Under Network, click Virtual Private Cloud.
- **Step 3** On the **Virtual Private Cloud** page, click **Create VPC** to create a VPC.
- **Step 4** Obtain the VPC and subnet ID for subsequent use in **Creating a Cluster**.
- **Step 5** On the **Virtual Private Cloud** page, choose **Access Control > Security Groups** in the navigation tree on the left, and click **Create Security Group** to create a security group.
- **Step 6** Obtain the security group ID for subsequent use in **Creating a Cluster**.

----End

## 6.4 Obtaining Resource Sets ID

#### Obtaining the Resource Sets ID by Calling the API

You can obtain the Resource Sets ID by calling the API used to query project information based on the specified criteria.

The API used to obtain a Resource Sets ID is **GET https://{***Endpoint***}/v3/projects/**. {*Endpoint*} indicates the endpoint and can be obtained from **Obtaining Endpoints**.

The following is an example response. **id** in **projects** indicates the Resource Sets ID.

```
"projects": [
  {
     "domain_id": "65382450e8f64ac0870cd180d14e684b",
     "is domain": false,
     "parent_id": "65382450e8f64ac0870cd180d14e684b",
     "name": "az1.dc1",
     "description": "",
     "links": {
        "next": null.
       "previous": null,
        "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"
     "id": "a4a5d4098fb4474fa22cd05f897d6b99",
     "enabled": true
"links": {
  "next": null,
   "previous": null,
  "self": "https://www.example.com/v3/projects"
```

### Obtaining the Resource Sets ID from the Console

A project ID is required for some URLs when an API is called. To obtain a project ID, perform the following operations:

- 1. Log in to the management console.
- Click the username and select My Settings from the drop-down list.
   On the My Settings page, view the Resource Sets ID in the project list.

## 6.5 Obtaining a Tenant ID

A tenant ID is required for some URLs when an API is called. Obtain the tenant ID as follows:

- 1. Log in to the management console.
- 2. Click the username and select **My Settings** from the drop-down list. On the **My Settings** page, view the tenant ID in the project list.

## 6.6 Obtaining the Cluster ID

A cluster ID (**cluster\_id**) is required for some URLs when an API is called. To obtain the cluster ID, perform the following steps:

#### **Obtaining Cluster ID Using APIs**

You can obtain the cluster ID by calling the API described in **Querying the Cluster List**.

The API used to obtain a cluster ID is **GET https://{Endpoint}/v1.0/{project\_id}/clusters**. *Endpoint* indicates the endpoint, which can be obtained from the **Obtaining Endpoints**. For details about Resource Sets ID, see **Obtaining Resource Sets ID**.

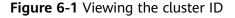
The following is an example response. The value of **id** under the specified clusters is the cluster ID.

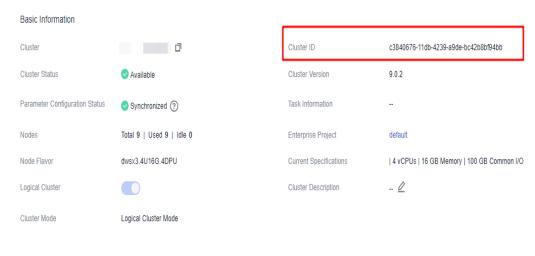
```
"clusters" : [ {
 "id": "7d85f602-a948-4a30-afd4-e84f47471c15",
"name" : "dws-1",
"status" : "AVAILABLE",
 "version" : "1.2.0",
 "updated": "2016-02-10T14:28:14Z", "created": "2016-02-10T14:26:14Z",
 "port": 8000,
 "endpoints" : [ {
  "connect_info": "192.168.0.10:8000",
  "jdbc_url": "jdbc:postgresql://192.168.0.10:8000/<YOUR_DATABASE_name>"
 }],
  'nodes" : [ {
  "id" : "acaf62a4-41b3-4106-bf6b-2f669d88291e",
  "status": "200"
}, {
"id": "d32de51e-4fcd-4e5a-a9dc-bb903abb494b",
  "status": "200"
   "id": "d71a4a25-c9bc-4ffd-9f4a-e422aef327f9",
  "status" : "200"
 }],
 "tags" : [ {
    "key" : "key1",
    "value" : "value1"
   "key" : "key2",
  "value" : "value2"
 }],
 "user_name" : "dbadmin",
 "number_of_node": 3,
 "recent_event": 6,
 "availability_zone" : "az1.dc1",
 "enterprise_project_id": "0",
 "node_type": "dws.d1.xlarge.ultrahigh",
 "vpc_id": "85b20d7e-9eb7-4b2a-98f3-3c8843ea3574",
 "subnet_id": "374eca02-cfc4-4de7-8ab5-dbebf7d9a720",
 "public_ip" : {
   "public_bind_type" : "auto_assign",
  "eip_id" : "85b20d7e-9eb7-4b2a-98f3-3c8843ea3574"
},
"public_endpoints" : [ {
   "public_connect_info" :"192.168.0.10:8000",
  "jdbc_url": "jdbc:postgresql://192.168.0.10:8000/<YOUR_DATABASE_name>"
```

```
} ],
"action_progress": {
    "SNAPSHOTTING": "20%"
},
    "sub_status": "READONLY",
    "task_status": "SNAPSHOTTING",
    "security_group_id": "dc3ec145-9029-4b39-b5a3-ace5a01f772b"
} ]
```

#### Obtaining Cluster ID from GaussDB(DWS) Console

- **Step 1** Log in to the GaussDB(DWS) console.
- **Step 2** In the navigation pane on the left, click **Clusters**.
- **Step 3** In the cluster list, find the target cluster and click the cluster name. The **Cluster Information** page is displayed.
- **Step 4** In the Basic Information area, view the cluster ID, as shown in the following figure.





----End

## 6.7 Obtaining Endpoints

The endpoint information of a service consists of the service name, region ID, and external domain name. The format is as follows: service\_name.region0\_id.external\_global\_domain\_name.

service\_name indicates the service name abbreviation such as mrs and dws, which
is case-insensitive. To obtain the values of regionO\_id and
external\_global\_domain\_name, perform the following operations:

#### Method 1: Using the Environment Parameter File

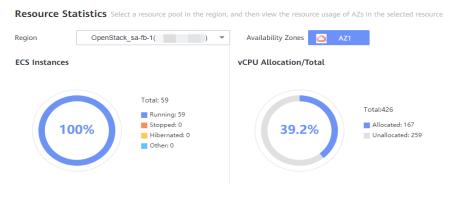
- Search for **region0\_id** in the **1.2 Basic\_Parameters** sheet of the xxx\_export\_all\_EN.xlsm file exported during installation.
- Search for **external\_global\_domain\_name** in the **1.2 Basic\_Parameters** sheet of the *xxx\_export\_all\_EN.xlsm* file exported during installation.

#### Method 2: Using ManageOne Operation Portal

- **Step 1** Log in to ManageOne as an operation administrator using a browser.
  - Login URL: https://ManageOne Operation Portal Address, for example, https://console.demo.com
  - Default username: bss\_admin.
     The homepage of ManageOne Operation Portal is displayed.
- **Step 2** In the address box, obtain the value of *external\_global\_domain\_name*.



**Step 3** Choose **Resource Statistics** > **Region** to obtain the value of *region0\_id*.



----End

#### Method 3: Using DMK

- **Step 1** Log in to DMK.
  - In the address box of the browser, enter https://DMK IP address.8443. On the DMK login page, enter the username and password of the super administrator for logging in to DMK, and click Login.
  - The default username is **sysadmin**
- **Step 2** In the navigation pane on the left, choose **Configurations**.
- Step 3 In the configuration file, obtain the values of *region0\_id* and *external\_global\_domain\_name*. For details, see Figure 6-2 and Figure 6-3.

**Public Configuration** Change Tracking **Public Configurations** Edit DMK 2 # 1. Global info panel public!!!!! Dashboard 4 \* g\_L2\_nginx: allow\_access\_remote\_host: '99.130.43.66 5 Task Board 7 \* g\_console: 8 + home: address: 9 Configurations 10 - 'console.type3 com' 11 12 + oldconsole: Accounts 13 url: 'no\_oldconsole'

**Figure 6-2** Obtaining the value of *external\_global\_domain\_name* 

**Figure 6-3** Obtaining the value of *region0\_id* 

```
address: 'iam-cache-proxy.cn-global-1.type3.co
                                                53
                                                54 * g_service_center:
                                                55 +
                                                       service:
                                                56
                                                          address: 'sc.type3.com:26335'
                                                57
                                                58 - g_bss:
            DMK
                                                     url: 'no_bss'
address: '127.0.0.1:8090'
                                                59
                                               61
                                               62 g_regions:
63 - - id: cn-global-1
                                                62
     Dashboard
                                                    code: cn-global-1
                                                64
                                                65
                                                        name: cn-global-1
Task Board
                                                66 - fsp_cascading:
                                                         api: '99.130.42.79'
nova: 'compute.az0.dc1.type3.com:443'
nova_ext: 'compute-ext.az0.dc1.type3.com:443'
cinder: 'volume.az0.dc1.type3.com:443'
                                                67
                                                68
Configurations
                                                69
                                                70
```

----End