

Data Warehouse Service

API Reference

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1 Before You Start

Overview

Welcome to DWS. 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.

This guide explains how to use APIs to manage DWS clusters, including creating, querying, and deleting tags and snapshots. For a comprehensive list of all supported operations, see [API Overview](#).

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

Endpoints

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

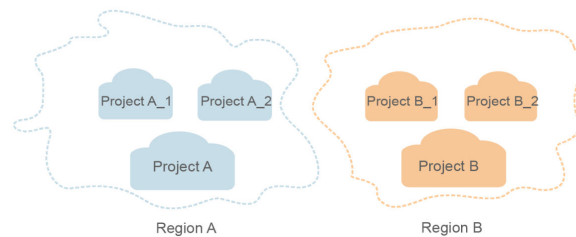
Basic Concepts

- **Account**
An account is created upon successful registration with the cloud system. The account has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions. The account is mainly for making payments and should not be used for regular management activities. To enhance security, create IAM users within the account and grant them the required permissions for routine management.
- **User**
An IAM user is created by an account to use cloud services. Each IAM user has its own identity credentials (password or access keys).
API authentication requires information such as the account name, username, and password.
- **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.
- **Project**
A project corresponds to a region. Default projects are defined to group and physically isolate resources (including compute, storage, and network resources) between different regions. Users can be granted permissions in a default project to access all resources under their accounts in the region associated with the project. For more refined access control, create subprojects under a project and apply for resources in the subprojects. 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 logically isolate resources. An enterprise project can contain resources from different regions, and resources can be transferred between enterprise projects.

2 API Overview

DWS provides Huawei-developed APIs. The following table lists the key functions of DWS APIs. For details about other APIs, see the corresponding sections.

Table 2-1 APIs

Function	API	Description
Cluster management	Performing a Check Before Cluster Creation	Performs a check before cluster creation.
	Creating a Cluster	Creates a cluster.
	Querying the List of Clusters	Queries and displays the cluster list.
	Querying Cluster Details	Queries cluster details.
	Querying Flavors	Queries all node types supported by DWS.
	Deleting a Cluster	Deletes a cluster.
	Restarting a Cluster	Restarts a cluster.
	Scaling Out a Cluster	Scales out a cluster.
	Resetting a Password	Resets the cluster administrator password.
	Querying the List of DSS Storage Pools	Queries DSS storage pools available to a tenant.
	Querying a Cluster Parameter Template	Queries the parameter group associated with a cluster.
	Canceling the Read-Only Status	Cancels the read-only status on the management console.
	Querying CNs in a Cluster	Queries information about CNs in a specified cluster.

Function	API	Description
	Adding CN Nodes in Batches	Adds CNs in batches to a specified cluster.
	Deleting CN Nodes in Batches	Deletes CNs from a specified cluster.
	Scaling In a Cluster	Scales in a cluster.
Snapshot management	Creating a Snapshot	Creates snapshots for a specified cluster.
	Querying the Cluster Snapshot List	Queries the snapshot list.
	Querying Snapshot Details	Queries the snapshot details using the snapshot ID.
	Deleting a Snapshot	Deletes a snapshot.
	Deleting a Snapshot Policy	Deletes a snapshot policy.
	Restoring a Cluster	Restores a cluster using a snapshot.
	Copying a Snapshot	Replicates an automated snapshot.
	Adding a Snapshot Policy	Sets a snapshot policy.
Incident management	Querying the Event List	Queries the event list.
	Querying Subscribed Events	Queries subscribed events.
	Creating an Event Subscription	Adds a subscribed event.
	Updating an Event Subscription	Updates a subscribed event.
	Deleting an Event Subscription	Deletes a subscribed event.
Data source	Querying Data Sources	Queries data sources.
	Editing a Data Source	Updates a data source.
Audit logs	Querying Logs	Queries audit logs.
Alarm management	Querying the Alarm Details List	Queries the alarm details list.

Function	API	Description
	Querying the Alarm Statistics List	Queries alarm statistics.
	Querying the Alarm Subscription List	Queries subscribed alarms.
	Creating an Alarm Subscription	Creates an alarm subscription.
	Editing an Alarm Subscription	Updates a subscribed alarm.
	Deleting an Alarm Subscription	Deletes a subscribed alarm.
AZ	Querying the AZ List	Queries the AZs available for a tenant to create a cluster.
Connection management	Applying for a Domain Name	Applies for a domain name for a specified cluster.
	Modifying a Cluster Domain Name	Changes the domain name of a specified cluster.
	Deleting a Cluster Domain Name	Deletes the domain name of a specified cluster.
	Obtaining the List of ELBs That Can Be Bound to a Cluster	Queries the list of ELBs that can be associated with a cluster.
	Binding an ELB to a Cluster	Binds an ELB to a cluster.
	Unbinding an ELB from a Cluster	Unbinds an ELB from a cluster.
	Binding an EIP to a Cluster	Binds an EIP to a cluster.
	Unbinding an EIP from a Cluster	Unbound an EIP from a cluster.
Tag management	Querying Project Tags	Queries project tags.
	Querying Cluster Tags	Queries tags of a specified cluster.
	Adding Tags in Batches	Batch adds tags to a specified cluster.
	Deleting Tags in Batches	Batch deletes tags from a specified cluster.

Function	API	Description
Quota management	Querying Quotas	Queries the DWS quota of a tenant.

3 Calling APIs

3.1 Making an API Request

This section describes the structure of a RESTful API request, and uses the IAM API for creating an IAM user as an example to describe how to call an API.

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 endpoint. The endpoint varies between services in different regions. It can be obtained from Regions and Endpoints .
resource-path	Access path of an API for performing a specified operation. Obtain the value from the URI of an API. For example, resource-path of the API used to create an IAM user is /v3.0/OS-USER/users .
query-string	Query parameter, which is optional. The query parameter must be in the format of <i>parameter-name=parameter-value</i> and prefixed with a question mark (?). 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.

Common request headers include:

- **Content-Type**: specifies the request body type or format. This field is mandatory and its default value is **application/json**. Other values of this field (if any) will be provided for specific APIs.
- **Authorization**: specifies signature authentication information. This field is optional. When AK/SK authentication is enabled, this field is automatically specified when SDK is used to sign the request. For more information, see "AK/SK-based Authentication".
- **X-Sdk-Date**: specifies the time when a request is sent. This field is optional. When AK/SK authentication is enabled, this field is automatically specified when SDK is used to sign the request. For more information, see "AK/SK-based Authentication".

- **X-Auth-Token**: specifies a user token only for token-based API authentication. The user token is a response to the API used to . This API is the only one that does not require authentication.
- **X-Project-ID**: specifies subproject ID. This field is optional and can be used in multi-project scenarios. This field is mandatory in the request header for accessing resources in a sub-project through AK/SK-based authentication.
- **X-Domain-ID**: specifies the account ID, which is optional. When you call APIs of global services using AK/SK-based authentication, **X-Domain-ID** needs to be configured in the request header.

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. Specify the character encoding mode in **Content-type**, for example, **Content-Type: application/json; charset=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.

In the case of the API used to , the request parameters and parameter description can be obtained from the API request. The following provides an example request with a body included.

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

```
Content-type: application/json
X-Sdk-Date: 20240416T095341Z
Authorization: SDK-HMAC-SHA256 Access=*****, SignedHeaders=content-type;host;x-sdk-date,
Signature=*****
{
  "user": {
    "domain_id": "accountid",
    "name": "username",
    "password": "*****",
    "email": "email",
    "description": "IAM User Description"
  }
}
```

The content required by an API request is ready. You can use [curl](#), [Postman](#), or write code to send the request to call the API.

3.2 Authentication

You can use either of the following authentication methods when calling APIs:

- AK/SK authentication: Requests are encrypted using an AK/SK.
- Token authentication: Requests are authenticated using a token.

AK/SK-based Authentication

NOTE

- AK/SK-based authentication supports API requests with a body no larger than 12 MB. For API requests with a larger body, you should use token-based authentication.
- You can use the AK/SK in a permanent or temporary access key. The **X-Security-Token** field must be configured if the AK/SK in a temporary access key is used, and the field value is **security_token** of the temporary access key.

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

- AK: access key ID, which is a unique identifier used with a secret access key to sign requests cryptographically.
- SK: secret access key. It is used together with an AK to sign requests. They can identify request senders and prevent requests from being modified.

In AK/SK-based authentication, you can use the AK/SK to sign requests based on the signature algorithm or use a dedicated signing SDK to sign requests. For details about how to sign requests and use the signing SDK, see the .

NOTICE

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

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

- Cache the token for authentication to prevent frequently calling the IAM API to obtain the token. A token is valid for 24 hours.
- Ensure that the token is valid while you use it. Using a token that will soon expire may cause API calling failures.

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

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 **ABCDEFGH...**, add **X-Auth-Token: ABCDEFGH...** to the request header.

```
GET https://iam.ap-southeast-1.myhuaweicloud.com/v3.0/OS-USER/users
Content-type: application/json
X-Auth-Token: ABCDEFGH....
```

3.3 Response

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

Status Code

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

Response Header

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

Figure 3-1 Response headers

```
"X-Frame-Options": "SAMEORIGIN",
"X-IAM-ETag-id": "2562365939-d8f6f12921974cb097338ac11fceac8a",
"Transfer-Encoding": "chunked",
"Strict-Transport-Security": "max-age=31536000; includeSubdomains;",
"Server": "api-gateway",
"X-Request-Id": "af2953f2bcc67a42325a69a19e6c32a2",
"X-Content-Type-Options": "nosniff",
"Connection": "keep-alive",
"X-Download-Options": "noopen",
"X-XSS-Protection": "1; mode=block;",
"X-IAM-Trace-Id": "token_ null_af2953f2bcc67a42325a69a19e6c32a2",
"Date": "Tue, 21 May 2024 09:03:40 GMT",
"Content-Type": "application/json; charset=utf8"
```

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.

```
{
  "user": {
    "id": "c131886aec...",
    "name": "IAMUser",
    "description": "IAM User Description",
    "areacode": "",
    "phone": "",
    "email": "***@***.com",
    "status": null,
    "enabled": true,
    "pwd_status": false,
```

```
{
  "access_mode": "default",
  "is_domain_owner": false,
  "xuser_id": "",
  "xuser_type": "",
  "password_expires_at": null,
  "create_time": "2024-05-21T09:03:41.000000",
  "domain_id": "d78cbac1.....",
  "xdomain_id": "30086000.....",
  "xdomain_type": "",
  "default_project_id": null
}
```

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

```
{
  "error_msg": "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 DWS APIs to manage clusters. The procedure of the management clusters is as follows:

1. Call the API in [Authentication](#) to obtain the user token, which will be put into the request header for authentication in a subsequent request.
2. Call the API in [Querying Flavor Information](#) to obtain the supported node types.
3. Call the API in [Creating a Cluster](#) to create a cluster.
4. Call the API in [Querying the Cluster List](#) to obtain the cluster information.
5. Call the API in [Querying Cluster Details](#) to view the cluster details.
6. Call the API in [Creating a Snapshot](#) to create a snapshot.
7. Call the API in [Querying the Snapshot List](#) to check whether the snapshot is created successfully.
8. Call the API in [Restoring a Cluster](#) to restore a cluster using its snapshot.
9. Call the API in [Deleting a Snapshot](#) to delete an unwanted snapshot.
10. Call the API in [Deleting a Cluster](#) 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 Project ID. For details, see [Obtaining Project ID](#).

Managing a Cluster

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

- IAM endpoint: **iam_endpoint**
- 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**
- Project ID: **9bc552e6-19af-4326-800d-281a92984636**

Perform the following operations to manage the cluster.

- Step 1** Before calling other APIs, call the API in [Authentication](#) to obtain the token and set it as an environment variable.

```
curl -H "Content-type:application/json" https://{iam_endpoint}/v3/auth/tokens -X POST -d '{
  "auth": {
    "identity": {
      "methods": [
        "password"
      ],
      "password": {
        "user": {
          "name": "testname",
          "domain": {
            "name": "testname"
          },
          "password": "Passw0rd"
        }
      }
    },
    "scope": {
      "project": {
        "name":
      }
    }
  }
}' -v -k
```

1. Obtain the value of **X-Subject-Token** from the response header as follows. **X-Subject-Token** indicates the token.

```
X-Subject-Token:MlidkgYJKoZlHvcNAQcColidgzCCA38CAQExDTALBglghkgBZQMEAgEwgXXXXX...
```

2. Run the following command to set the token as an environment variable:

```
export Token={X-Subject-Token}
```

X-Subject-Token is the token obtained in the preceding step.

```
export Token=MlidkgYJKoZlHvcNAQcColidgzCCA38CAQExDTALBglghkgBZQMEAgEwgXXXXX...
```

- Step 2** Call the API in [Querying Flavor Information](#) 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": ,
      "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"
    }
  ]
}
```

Step 3 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:
- Number of nodes: **3**
- Elastic IP (EIP): **auto_assign**

```
curl -X POST -H 'Content-type:application/json;charset=utf-8' -H "X-Auth-Token:$Token" -d '{
  "node_type": "d23ef2e9-8b90-49b3-bc4a-fd7d6bea6bec",
  "number_of_node": 3,
  "subnet_id": "d23ef2e9-8b90-49b3-bc4a-fd7d6bea6bec",
  "security_group_id": "12e3c23a-8710-4b75-95e4-5c8d7f68ef3c",
  "vpc_id": "219ab8a0-1272-4049-a383-8ad0b770fa11",
  "port": 8000,
  "name": "dws-demo",
  "user_name": "dbadmin",
  "user_pwd": "passw0rd",
  "public_ip": {
    "public_bind_type": "auto_assign"
  }
}' https://{dws_endpoint}/v1.0/9bc552e6-19af-4326-800d-281a92984636/clusters -v -k
```

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

Step 4 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": ,
  "subnet_id": "d23ef2e9-8b90-49b3-bc4a-fd7d6bea6bec",
  "security_group_id": "12e3c23a-8710-4b75-95e4-5c8d7f68ef3c",
  "number_of_node": 3,
  "availability_zone": ,
  "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"
  },
  "public_endpoints": [
    {
      "public_connect_info": ,
      "jdbc_url": "jdbc:postgresql:///<YOUR_DATABASE_name>"
    }
  ],
  "endpoints": [
    {
      "connect_info": ,
      "jdbc_url": "jdbc:postgresql:///<YOUR_DATABASE_name>"
    }
  ],
  "updated": "2018-01-15T12:50:06",
  "created": "2018-01-15T12:50:06",
  "recent_event": 1
}
```

- 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 5 Call the API in **Querying Cluster Details** to view the 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": ,
    "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": ,
    "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": ,
      "jdbc_url": "jdbc:postgresql:///<YOUR_DATABASE_name>"
    }
  ],
  "endpoints": [
    {
      "connect_info": ,
      "jdbc_url": "jdbc:postgresql:///<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,
}
```

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 6 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 7 Call the API in [Querying the Snapshot List](#) to check whether the snapshot is created successfully.

```
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",
  "type": "MANUAL",
  "cluster_id": "4f87d3c4-9e33-482f-b962-e23b30d1a18c"
}
```

Step 8 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 [Querying Snapshot Details](#).

Step 9 Call the API in [Deleting a 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 10 Call the API in [Deleting a Cluster](#) to delete a finished or 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 Management

5.1.1 Querying the AZ List

Function

This API is used to query the ID of the AZ, which you will need to create an instance.

Calling Method

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

URI

GET /v1.0/{project_id}/availability-zones

Table 5-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-2 Response body parameters

Parameter	Type	Description
availability_zones	Array of AvailabilityZone objects	Definition AZ list. Range Non-empty object list.
count	Integer	Definition Number of AZs. Range N/A

Table 5-3 AvailabilityZone

Parameter	Type	Description
code	String	Definition AZ unique code. Range N/A
name	String	Definition AZ name. Range N/A
status	String	Definition AZ status. Range available unavailable
public_border_group	String	Definition AZ group, for example, center . Range N/A

Example Requests

Query AZs.

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

Example Responses

Status code: 200

AZ list queried.

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

Status Codes

Status Code	Description
200	AZ list 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 Cluster Management

5.2.1 Querying Flavor Information

Function

This API is used to query flavors supported by GaussDB(DWS).

Calling Method

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

URI

GET /v2/{project_id}/node-types

Table 5-4 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-5 Response body parameters

Parameter	Type	Description
node_types	Array of NodeTypes objects	Definition Available flavor list. Range Non-empty object list.
count	Integer	Definition Total number of flavors. Range A positive integer greater than or equal to 0

Table 5-6 NodeTypes

Parameter	Type	Description
spec_name	String	Definition Flavor name. Range Letters, digits, dots (.), underscores (_), and hyphens (-) are allowed.
detail	Array of Detail objects	Definition Flavor details. Range N/A
id	String	Definition Flavor ID. Range Generally, the value is a UUID.
datastore_type	String	Definition Product type. Range • dws: cloud data warehouse • hybrid: hybrid data warehouse
architecture	String	Definition Architecture type. Range • x86 • arm
available_zones	Array of NodeTypeAvailableZones objects	Definition Supported AZs and status information. Range N/A
ram	Integer	Definition Memory size, in GB. Range A positive integer greater than 0
vcpus	Integer	Definition Number of CPUs. Range A positive integer greater than 0

Parameter	Type	Description
datastores	Array of NodeTypeDatastores objects	Definition Kernel version information. Range N/A
volume	VolumeResp object	Definition Storage of fixed storage specifications. Range For a fixed storage the value is the storage of its typical configuration. For an elastic storage, the value null .
elastic_volume_specs	Array of NodeTypeElasticVolumeSpecs objects	Definition Information of elastic storage specifications. Range For elastic storage specifications, the value is the storage of its typical configuration (including the storage type, minimum capacity, maximum capacity, and step). For fixed storage specifications, the value is null .

Table 5-7 Detail

Parameter	Type	Description
type	String	Definition Attribute type. Range N/A
value	String	Definition Attribute value. Range N/A
unit	String	Definition Attribute unit. Range N/A

Table 5-8 NodeTypeAvailableZones

Parameter	Type	Description
code	String	Definition AZ ID. Range N/A
status	String	Definition Favor status. Range • normal: available • sellout: sold out • abandon: unavailable

Table 5-9 NodeTypeDatastores

Parameter	Type	Description
version	String	Definition Kernel version. Range The version consists of digits and decimal points, for example, 9.1.0 and 9.1.1.100 .
attachments	attachments object	Definition Additional information about the kernel version. Range N/A
role	String	Definition Version type. Range • STABLE: stable version • PREVIEW: preview version

Table 5-10 attachments

Parameter	Type	Description
min_cn	Integer	Definition Minimum CNs allowed by the kernel version. Range A positive integer greater than 0
max_cn	Integer	Definition Maximum CNs allowed by the kernel version. Range A positive integer greater than 0

Table 5-11 VolumeResp

Parameter	Type	Description
type	String	Definition Disk type. Only SSDs are supported. Range Only SSDs are supported.
size	Integer	Definition Available disk capacity. Range Only SSDs are supported.

Table 5-12 NodeTypeElasticVolumeSpecs

Parameter	Type	Description
type	String	Definition Cloud disk type. Range N/A
step	Integer	Definition Cloud disk size increment. Range N/A

Parameter	Type	Description
min_size	Integer	Definition Minimum cloud disk size. Range N/A
max_size	Integer	Definition Maximum cloud disk size. Range N/A

Example Requests

Query flavor information.

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

Example Responses

Status code: 200

Flavor information queried.

```
{
  "node_types": [ {
    "spec_name": "dws.d2.xlarge",
    "id": "ebe532d6-665f-40e6-a4d4-3c51545b6a67",
    "datastore_type": "dws",
    "architecture": "x86",
    "available_zones": [ {
      "code": "az1",
      "status": "normal"
    } ],
    "ram": 32,
    "vcpus": 4,
    "datastores": [ {
      "version": "8.1.3.200",
      "attachments": {
        "min_cn": 2,
        "max_cn": 20
      },
      "role": "STABLE"
    } ],
    "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 Codes

Status Code	Description
200	Flavor information 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.

5.2.2 Querying the Cluster List

Function

This API is used to query the cluster list.

Calling Method

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

URI

GET /v1.0/{project_id}/clusters

Table 5-13 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Table 5-14 Query Parameters

Parameter	Mandatory	Type	Description
enterprise_project_id	No	String	Definition Enterprise project ID. If all clusters bound to enterprise projects are queried, the value is all_granted_eps . Constraints N/A Range all_granted_eps : all enterprise projects 0 : default enterprise project Others: data of the corresponding enterprise project Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-15 Response body parameters

Parameter	Type	Description
clusters	Array of ClusterInfo objects	Definition Cluster object list. Range N/A
count	Integer	Definition Total number of clusters. Range N/A

Table 5-16 ClusterInfo

Parameter	Type	Description
id	String	Definition Cluster ID. Range N/A
name	String	Definition Cluster name. Range The value must be unique under the same account ID.

Parameter	Type	Description
status	String	Definition Cluster status. The value is an enumerated string. Range • CREATING: The cluster is being created. • ACTIVE: The cluster is available. • FAILED: The cluster is unavailable. • CREATE_FAILED: The cluster failed to be created. • DELETING: The cluster is being deleted. • DELETE_FAILED: The cluster failed to be deleted. • FROZEN: The cluster is frozen. • POLICE_FROZEN: The cluster is frozen by the public security.
version	String	Definition DWS cluster version. Range The value contains three to four characters separated by decimal points, for example, 9.1.0.200 . A larger value indicates a later version.
updated	String	Definition Last modification time of a cluster. The format is ISO8601:YYYY-MM-DDThh:mm:ssZ. Range The value must be an ISO8601 time and later than or equal to the cluster creation time.
created	String	Definition Cluster creation time in ISO 8601 format (YYYY-MM-DDThh:mm:ssZ). Range Time in ISO 8601 format.

Parameter	Type	Description
port	Integer	Definition Cluster service port. If this parameter is not specified when a cluster is created, the default value 8000 is used. Range 8000 to 30000
endpoints	Array of Endpoints objects	Definition Private network connection information about the cluster. Range N/A
nodes	Array of Nodes objects	Definition Cluster nodes. Range The number of rows in the list is the same as the value of the number_of_node field.
tags	Array of Tags objects	Definition Cluster tags. Range The default value is null .
user_name	String	Definition Administrator username. Range The default value is dbadmin .
number_of_node	Integer	Definition Number of nodes. This parameter is specified when a cluster is created. Range N/A
recent_event	Integer	Definition Number of events. Only user operations that affect clusters are recorded. The switch operations of certain buttons are not recorded as cluster events. Range N/A

Parameter	Type	Description
availability_zone	String	Definition AZ. Range N/A
enterprise_project_id	String	Definition Enterprise project ID for a cluster. If this parameter is not specified, the default value 0 (indicating that the ID of the default enterprise project) is used. Constraints N/A Range N/A Default Value 0
node_type	String	Definition Cluster flavor ID. Range N/A
vpc_id	String	Definition VPC ID. Range N/A
subnet_id	String	Definition Subnet ID. Range N/A
public_ip	PublicIp object	Definition Public IP address. If the parameter is not specified, public connection is not used by default. Range N/A

Parameter	Type	Description
public_endpoints	Array of PublicEndpoints objects	Definition Public IP address. If the parameter is not specified, public connection is not used by default. Range N/A

Parameter	Type	Description
action_progress	Map<String,String>	Definition Task information. It consists of a key and a value. The key indicates an ongoing task, and the value indicates the progress of the ongoing task. Range The key can contain but is not limited to the following values: • CREATING • RESTORING • SNAPSHOTTING • GROWING • REBOOTING • SETTING_CONFIGURATION: Security settings are being configured. • CONFIGURING_EXT_DATASOURCE: The MRS connection is being configured. • ADD_CN_ING: A CN is being added. • DEL_CN_ING: A CN is being deleted. • REDISTRIBUTING: Redistribution is in progress. • ELB_BINDING: An ELB is being bound. • ELB_UNBINDING: An ELB is being unbound. • ELB_SWITCHING: An ELB is being switched. • NETWORK_CONFIGURING: The network is being configured. • DISK_EXPANDING: The disk is being expanded. • ACTIVE_STANDY_SWITCHOVER: The primary/standby switchover is being performed. • CLUSTER_SHRINKING: The cluster is being scaled in. • SHRINK_CHECKING: Cluster scale-in check is being performed. • FLAVOR_RESIZING: The flavor is being changed.

Parameter	Type	Description
		• MANAGE_IP_BINDING: Login is being enabled. • FINE_GRAINED_RESTORING: The fine-grained restoration is in progress. • DR_RECOVERING: The DR recovery is in progress. • REPAIRING: The cluster is being repaired.
sub_status	String	Definition Sub-status of the available clusters. Range NORMAL • READONLY • REDISTRIBUTING • REDISTRIBUTION-FAILURE • UNBALANCED • UNBALANCED READONLY • DEGRADED • DEGRADED READONLY • DEGRADED UNBALANCED • UNBALANCED REDISTRIBUTING • UNBALANCED REDISTRIBUTION-FAILURE • READONLY REDISTRIBUTION-FAILURE • UNBALANCED READONLY REDISTRIBUTION-FAILURE • DEGRADED REDISTRIBUTION-FAILURE • DEGRADED UNBALANCED READONLY REDISTRIBUTION-FAILURE • DEGRADED UNBALANCED READONLY DEGRADED UNBALANCED REDISTRIBUTION-FAILURE

Parameter	Type	Description
task_status	String	Definition Result of an ongoing task or an executed task for cluster management. Range The value can contain but is not limited to the following values: • UNFREEZING • FREEZING • RESTORING • SNAPSHOTTING • GROWING • REBOOTING • SETTING_CONFIGURATION: Security settings are being configured. • CONFIGURING_EXT_DATASOURCE : The MRS connection is being configured. • DELETING_EXT_DATASOURCE: The MRS connection is being deleted. • REBOOT_FAILURE: The reboot failed. • RESIZE_FAILURE: The scale-out failed. • ADD_CN_ING: A CN is being added. • DEL_CN_ING: A CN is being deleted. • CREATING_NODE: A node is being added. • CREATE_NODE_FAILED: The node failed to be added. • DELETING_NODE: The node is being deleted. • DELETE_NODE_FAILED: The node failed to be deleted. • REDISTRIBUTING: Redistribution is in progress. • REDISTRIBUTE_FAILURE: Redistribution failed. • WAITING_REDISTRIBUTION: Redistribution is waiting. • REDISTRIBUTION_PAUSED: Redistribution is paused.

Parameter	Type	Description
		• ELB_BINDING: An ELB is being bound. • ELB_BIND_FAILED: An ELB failed to be bound. • ELB_UNBINDING: An ELB is being unbound. • ELB_UNBIND_FAILED: An ELB failed to be unbound. • ELB_SWITCHING: An ELB is being switched. • ELB_SWITCHING_FAILED: An ELB failed to be switched. • NETWORK_CONFIGURING: The network is being configured. • NETWORK_CONFIG_FAILED: Network configuration failed. • DISK_EXPAND_FAILED: Disk capacity expansion failed. • DISK_EXPANDING: The disk is being expanded. • ACTIVE_STANDY_SWITCHOVER: The primary/standby switchover is being performed. • ACTIVE_STANDY_SWITCHOVER_FAILURE: The primary/standby switchover failed. • CLUSTER_SHRINK_FAILED: The cluster scale-in failed. • CLUSTER_SHRINKING: The cluster is being scaled in. • SHRINK_CHECK_FAILED: The cluster scale-in check failed. • SHRINK_CHECKING: Cluster scale-in check is being performed. • FLAVOR_RESIZING_FAILED: The flavor change failed. • FLAVOR_RESIZING: The flavor is being changed. • MANAGE_IP_BIND_FAILED: Login failed to be enabled. • MANAGE_IP_BINDING: Login is being enabled. • ORDER_PENDING: The order is pending to be paid.

Parameter	Type	Description
		• FINE_GRAINED_RESTORING: The fine-grained restoration is in progress. • DR_RECOVERING: The DR recovery is in progress.
security_group_id	String	Definition Security group ID. Range N/A
failed_reasons	FailedReason object	Definition Failure cause. If the parameter is left blank, the cluster is in the normal state. Range N/A

Table 5-17 Endpoints

Parameter	Type	Description
connect_info	String	Definition Private network connection information. Range N/A
jdbc_url	String	Definition JDBC URL of the private network. Constraints N/A Range N/A Default Value jdbc:postgresql://<connect_info>/<YOUR_DATABASE_NAME>

Table 5-18 Nodes

Parameter	Type	Description
id	String	Definition Cluster instance ID. Range N/A
status	String	Definition Cluster instance status. Range 100: creating 199: idle 200: available 300: unavailable 303: creation failed 304: deleting 305: deletion failed 400: deleted
name	String	Definition Instance name. Range N/A

Table 5-19 Tags

Parameter	Type	Description
key	String	Definition Tag key. Constraints N/A Range - It can contain a maximum of 128 Unicode characters. It cannot be an empty string, and cannot start or end with a space. - It cannot contain the following characters: =*<>\,/ - Only uppercase letters, lowercase letters, digits, underscores (_), and hyphens (-) are allowed. Default Value N/A
value	String	Definition Tag value. Constraints N/A Range - The value can contain a maximum of 256 characters and can be an empty string. It cannot start or end with a space. - It cannot contain the following characters: =*<>\,/ - Only uppercase letters, lowercase letters, digits, underscores (_), and hyphens (-) are allowed. Default Value N/A

Table 5-20 PublicIp

Parameter	Type	Description
public_bind_type	String	Definition EIP binding type. Constraints N/A Range auto_assign not_use bind_existing Default Value null
eip_id	String	Definition EIP ID. Constraints N/A Range N/A Default Value null

Table 5-21 PublicEndpoints

Parameter	Type	Description
public_connect_info	String	Definition Public network connection information. Range N/A

Parameter	Type	Description
jdbc_url	String	Definition JDBC connection string of the public network. Constraints N/A Range N/A Default Value jdbc:postgresql:// <public_connect_info>/ <YOUR_DATABASE_name>

Table 5-22 FailedReason

Parameter	Type	Description
error_code	String	Definition Error code. Range N/A
error_msg	String	Definition Error message. Range N/A

Example Requests

Query the cluster list.

```
GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters?  
enterprise_project_id=all_granted_eps
```

Example Responses

Status code: 200

Cluster list queried.

```
{  
  "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" : "dws-1.cn-north-4.dwscloud.com",
    "jdbc_url" : "jdbc:postgresql://dws-1.cn-north-4.dwscloud.com/<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",
    "name" : "dws-1-dws-cn-cn-2-1",
    "status" : "200"
  }, {
    "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" : "cn-north-4b",
  "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" : "dws-1.cn-north-4.dwscloud.com",
    "jdbc_url" : "jdbc:postgresql://dws-1.cn-north-4.dwscloud.com/<YOUR_DATABASE_name>"
  } ],
  "action_progress" : {
    "SNAPSHOTTING" : "20%"
  },
  "sub_status" : "READONLY",
  "task_status" : "SNAPSHOTTING",
  "security_group_id" : "dc3ec145-9029-4b39-b5a3-ace5a01f772b"
}
```

Status Codes

Status Code	Description
200	Cluster list queried.
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	Service unavailable.

5.2.3 Querying Cluster Details

Function

This API is used to query cluster details.

Calling Method

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

URI

GET /v1.0/{project_id}/clusters/{cluster_id}

Table 5-23 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-24 Response body parameters

Parameter	Type	Description
cluster	ClusterDetail object	Definition Cluster details. Range Non-null

Table 5-25 ClusterDetail

Parameter	Type	Description
id	String	Definition Cluster ID. Range N/A
name	String	Definition Cluster name. Range N/A

Parameter	Type	Description
status	String	Definition Cluster status. Range • CREATING: The cluster is being created. • ACTIVE: The cluster is available. • FAILED: The cluster is unavailable. • CREATE_FAILED: The cluster failed to be created. • DELETING: The cluster is being deleted. • DELETE_FAILED: The cluster failed to be deleted. • DELETED: The cluster was deleted. • FROZEN: The cluster is frozen. • POLICE_FROZEN: The cluster is frozen by the public security.
version	String	Definition Data warehouse version. Range N/A
updated	String	Definition Last modification time of a cluster. The format is ISO8601:YYYY-MM-DDThh:mm:ssZ. Range N/A
created	String	Definition Cluster creation time in ISO 8601 format (YYYY-MM-DDThh:mm:ssZ). Range N/A
port	Integer	Definition Cluster service port. Range 8000 to 30000

Parameter	Type	Description
endpoints	Array of Endpoints objects	Definition Private network connection information about the cluster. Range Non-empty object array.
nodes	Array of Nodes objects	Definition Cluster nodes. Range Non-empty object array.
tags	Array of Tags objects	Definition Cluster tags. Range N/A
user_name	String	Definition Administrator username. Range N/A
number_of_node	Integer	Definition Number of nodes. Range N/A
recent_event	Integer	Definition Number of events. Range N/A
availability_zone	String	Definition AZ. Range N/A

Parameter	Type	Description
enterprise_project_id	String	Definition Enterprise project ID for a cluster. If this parameter is not specified, the default value 0 (indicating that the ID of the default enterprise project) is used. Constraints N/A Range N/A Default Value 0
vpc_id	String	Definition VPC ID. Range N/A
subnet_id	String	Definition Subnet ID. Range N/A
public_ip	PublicIp object	Definition Public IP address. If the parameter is not specified, public connection is not used by default. Range N/A
public_endpoints	Array of PublicEndpoints objects	Definition Public IP address. If the parameter is not specified, public connection is not used by default. Range N/A

Parameter	Type	Description
action_progress	Map<String,String>	Definition Task information. It consists of a key and a value. The key indicates an ongoing task, and the value indicates the progress of the ongoing task. Range The key can contain but is not limited to the following values: • CREATING: The cluster is being created. • RESTORING • SNAPSHOTTING • GROWING • REBOOTING • SETTING_CONFIGURATION: Security settings are being configured. • CONFIGURING_EXT_DATASOURCE : The MRS connection is being configured. • ADD_CN_ING: A CN is being added. • DEL_CN_ING: A CN is being deleted. • REDISTRIBUTING: Redistribution is in progress. • ELB_BINDING: An ELB is being bound. • ELB_UNBINDING: An ELB is being unbound. • ELB_SWITCHING: An ELB is being switched. • NETWORK_CONFIGURING: The network is being configured. • DISK_EXPANDING: The disk is being expanded. • ACTIVE_STANDY_SWITCHOVER: The primary/standby switchover is being performed. • CLUSTER_SHRINKING: The cluster is being scaled in. • SHRINK_CHECKING: Cluster scale-in check is being performed. • FLAVOR_RESIZING: The flavor is being changed.

Parameter	Type	Description
		• MANAGE_IP_BINDING: Login is being enabled. • FINE_GRAINED_RESTORING: The fine-grained restoration is in progress. • DR_RECOVERING: The DR recovery is in progress. • REPAIRING: The cluster is being repaired.
sub_status	String	Definition Sub-status of the available clusters. Range • NORMAL • READONLY • REDISTRIBUTING • REDISTRIBUTION-FAILURE • UNBALANCED • UNBALANCED READONLY: unbalanced, read-only • DEGRADED • DEGRADED READONLY • DEGRADED UNBALANCED • UNBALANCED REDISTRIBUTING • UNBALANCED REDISTRIBUTION-FAILURE • READONLY REDISTRIBUTION-FAILURE • UNBALANCED READONLY REDISTRIBUTION-FAILURE • DEGRADED REDISTRIBUTION-FAILURE • DEGRADED UNBALANCED REDISTRIBUTION-FAILURE • DEGRADED UNBALANCED READONLY REDISTRIBUTION-FAILURE • DEGRADED UNBALANCED READONLY

Parameter	Type	Description
task_status	String	Definition Task for cluster management. Range The value can contain but is not limited to the following values: • UNFREEZING • FREEZING • RESTORING • SNAPSHOTTING • GROWING • REBOOTING • SETTING_CONFIGURATION: Security settings are being configured. • CONFIGURING_EXT_DATASOURCE : The MRS connection is being configured. • DELETING_EXT_DATASOURCE: The MRS connection is being deleted. • REBOOT_FAILURE: The reboot failed. • RESIZE_FAILURE: The scale-out failed. • ADD_CN_ING: A CN is being added. • DEL_CN_ING: A CN is being deleted. • CREATING_NODE: A node is being added. • CREATE_NODE_FAILED: The node failed to be added. • DELETING_NODE: The node is being deleted. • DELETE_NODE_FAILED: The node failed to be deleted. • REDISTRIBUTING: Redistribution is in progress. • REDISTRIBUTE_FAILURE: Redistribution failed. • WAITING_REDISTRIBUTION: Redistribution is waiting. • REDISTRIBUTION_PAUSED: Redistribution is paused.

Parameter	Type	Description
		• ELB_BINDING: An ELB is being bound. • ELB_BIND_FAILED: An ELB failed to be bound. • ELB_UNBINDING: An ELB is being unbound. • ELB_UNBIND_FAILED: An ELB failed to be unbound. • ELB_SWITCHING: An ELB is being switched. • ELB_SWITCHING_FAILED: An ELB failed to be switched. • NETWORK_CONFIGURING: The network is being configured. • NETWORK_CONFIG_FAILED: Network configuration failed. • DISK_EXPAND_FAILED: Disk capacity expansion failed. • DISK_EXPANDING: The disk is being expanded. • ACTIVE_STANDY_SWITCHOVER: The primary/standby switchover is being performed. • ACTIVE_STANDY_SWITCHOVER_FAILURE: The primary/standby switchover failed. • CLUSTER_SHRINK_FAILED: The cluster scale-in failed. • CLUSTER_SHRINKING: The cluster is being scaled in. • SHRINK_CHECK_FAILED: The cluster scale-in check failed. • SHRINK_CHECKING: Cluster scale-in check is being performed. • FLAVOR_RESIZING_FAILED: The flavor change failed. • FLAVOR_RESIZING: The flavor is being changed. • MANAGE_IP_BIND_FAILED: Login failed to be enabled. • MANAGE_IP_BINDING: Login is being enabled. • ORDER_PENDING: The order is pending to be paid.

Parameter	Type	Description
		• FINE_GRAINED_RESTORING: The fine-grained restoration is in progress. • DR_RECOVERING: The DR recovery is in progress.
parameter_group	ParameterGroup object	Definition Information about the parameter template associated with a cluster. Range N/A
node_type	String	Definition Cluster flavors. Range N/A
node_type_id	String	Definition Cluster flavor ID. Range N/A
security_group_id	String	Definition Security group ID. Range N/A
order_id	String	Definition Order ID, which is returned only when an instance is billed on a yearly/ monthly basis. If this parameter is not left blank, the cluster is a yearly/ monthly cluster. Range N/A
private_ip	Array of strings	Definition Private IP addresses. Range N/A
maintain_window	MaintainWindow object	Definition Cluster maintenance window. Range N/A

Parameter	Type	Description
resize_info	ResizeInfo object	Definition Cluster scale-out details. Range N/A
failed_reasons	FailedReason object	Definition Failure cause. If the parameter is left blank, the cluster is in the normal state. Range N/A
elb	ElbResp object	Definition ELB bound to the cluster. Range N/A

Table 5-26 Endpoints

Parameter	Type	Description
connect_info	String	Definition Private network connection information. Range N/A
jdbc_url	String	Definition JDBC URL of the private network. Constraints N/A Range N/A Default Value jdbc:postgresql://<connect_info>/<YOUR_DATABASE_NAME>

Table 5-27 Nodes

Parameter	Type	Description
id	String	Definition Cluster instance ID. Range N/A
status	String	Definition Cluster instance status. Range 100: creating 199: idle 200: available 300: unavailable 303: creation failed 304: deleting 305: deletion failed 400: deleted
name	String	Definition Instance name. Range N/A

Table 5-28 Tags

Parameter	Type	Description
key	String	Definition Tag key. Constraints N/A Range - It can contain a maximum of 128 Unicode characters. It cannot be an empty string, and cannot start or end with a space. - It cannot contain the following characters: =*<>\,/ - Only uppercase letters, lowercase letters, digits, underscores (_), and hyphens (-) are allowed. Default Value N/A
value	String	Definition Tag value. Constraints N/A Range - The value can contain a maximum of 256 characters and can be an empty string. It cannot start or end with a space. - It cannot contain the following characters: =*<>\,/ - Only uppercase letters, lowercase letters, digits, underscores (_), and hyphens (-) are allowed. Default Value N/A

Table 5-29 PublicIp

Parameter	Type	Description
public_bind_type	String	Definition EIP binding type. Constraints N/A Range auto_assign not_use bind_existing Default Value null
eip_id	String	Definition EIP ID. Constraints N/A Range N/A Default Value null

Table 5-30 PublicEndpoints

Parameter	Type	Description
public_connect_info	String	Definition Public network connection information. Range N/A

Parameter	Type	Description
jdbc_url	String	Definition JDBC connection string of the public network. Constraints N/A Range N/A Default Value jdbc:postgresql:// <public_connect_info>/ <YOUR_DATABASE_name>

Table 5-31 ParameterGroup

Parameter	Type	Description
id	String	Definition Parameter template ID. Range N/A
name	String	Definition Parameter template name. Range N/A
status	String	Definition Cluster parameter status. Range • In-Sync • Applying • Pending-Reboot • Sync-Failure

Table 5-32 MaintainWindow

Parameter	Type	Description
day	String	Definition Maintenance time in each week in the unit of day. Range • Mon • Tue • Wed • Thu • Fri • Sat • Sun
start_time	String	Definition Maintenance start time in HH:mm format. The time zone is GMT+0. Range N/A
end_time	String	Definition Maintenance end time in HH:mm format. The time zone is GMT+0. Range N/A

Table 5-33 ResizeInfo

Parameter	Type	Description
target_node_num	Integer	Definition Number of nodes after the scale-out. Range N/A
origin_node_num	Integer	Definition Number of nodes before the scale-out. Range N/A

Parameter	Type	Description
resize_status	String	Definition Scale-out status. Range • GROWING: The cluster is being scaled out. • RESIZE_FAILURE: The scale-out failed.
start_time	String	Definition Scale-out start time. Format: ISO8601:YYYY-MM-DDThh:mm:ss. Range N/A

Table 5-34 FailedReason

Parameter	Type	Description
error_code	String	Definition Error code. Range N/A
error_msg	String	Definition Error message. Range N/A

Table 5-35 ElbResp

Parameter	Type	Description
public_ip	String	Definition Public IP address. Range A valid public IPv4 address.
private_ip	String	Definition Private IP address. Range A valid private IPv4 address.

Parameter	Type	Description
private_endpoint	String	Definition ELB endpoint address. Range N/A
name	String	Definition ELB name. Range N/A
id	String	Definition ELB ID. Range N/A
vpc_id	String	Definition ID of the VPC that the ELB is associated with. Range N/A

Example Requests

Query cluster details.

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

Example Responses

Status code: 200

Cluster details queried.

```
{
  "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": "dws-1.cn-north-4.dwscloud.com",
      "jdbc_url": "jdbc:postgresql://dws-1.cn-north-4.dwscloud.com/<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",
  "name": "dws-1-dws-cn-cn-2-1",
  "status": "200"
}, {
  "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": "cn-north-4b",
"enterprise_project_id": "0",
"node_type": "dws.m1.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-9etypeb2a-98f3-3c8843ea3574"
},
"public_endpoints": [ {
  "public_connect_info": "dws-1.cn-north-4.dwscloud.com",
  "jdbc_url": "jdbc:postgresql://dws-1.cn-north-4.dwscloud.com/<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",
"order_id": "",
"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"
}
}
```

Status Codes

Status Code	Description
200	Cluster details 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.

5.2.4 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.

Calling Method

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

URI

POST /v1.0/{project_id}/clusters

Table 5-36 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-37 Request body parameters

Parameter	Mandatory	Type	Description
cluster	Yes	CreateClusterInfo object	Definition Cluster object. Range Non-null object.

Table 5-38 CreateClusterInfo

Parameter	Mandatory	Type	Description
node_type	Yes	String	Definition Node flavor ID. To obtain the value, call the API for querying flavors and view the id field in the API response. Constraints N/A Range The value must be the flavor ID returned by the API for querying flavors. Default Value N/A
number_of_node	Yes	Integer	Definition Number of nodes. Constraints N/A Range For a cluster, the value is from 3 to 256 . For a hybrid data warehouse (standalone), the value is 1 . Default Value N/A

Parameter	Mandatory	Type	Description
subnet_id	Yes	String	Definition Subnet ID, which is used for configuring the cluster network. Constraints N/A Range The value must be a subnet in the VPC ID. Default Value N/A
security_group_id	Yes	String	Definition Security group ID, which is used for configuring the cluster network. Constraints N/A Range If this parameter is not left blank, it must be a valid security group ID. If this parameter is left blank, the system automatically creates a security group. Default Value null
vpc_id	Yes	String	Definition VPC ID, which is used for configuring cluster network. Constraints N/A Range The value must be a valid VPC ID. Default Value N/A

Parameter	Mandatory	Type	Description
availability_zone	No	String	Definition AZ of the cluster. Constraints N/A Range The AZ code must be valid at the current region and visible to the current user. Default Value AZ code of the first available AZ.
port	No	Integer	Definition Cluster database port. Constraints N/A Range 8000 to 30000 Default Value 8000
name	Yes	String	Definition Cluster name. Constraints The value must be unique. It must contain 4 to 64 characters and start with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed. Range 4 to 64 characters Default Value 8000

Parameter	Mandatory	Type	Description
user_name	Yes	String	Definition Administrator username for logging in to a GaussDB(DWS) cluster. Constraints - Only lowercase letters, digits, and underscores (_) are allowed. - The value must start with a lowercase letter or an underscore (_). - The value can contain 1 to 63 characters. - The value cannot be a keyword of the GaussDB(DWS) database. Range 1 to 63 characters Default Value dbadmin
user_pwd	Yes	String	Definition Administrator password for logging in to a GaussDB(DWS) cluster. Constraints N/A Range The value can contain 12 to 32 characters. The value can contain at least three types of the following characters: uppercase letters, lowercase letters, numbers, and special characters (~!?,,:;_(){}[]/ <> @#%^&*+ \=-). The value must be different from the username or the username spelled backwards. Default Value N/A

Parameter	Mandatory	Type	Description
public_ip	No	PublicIp object	Definition Public IP address. If the parameter is not specified, public connection is not used by default. Constraints N/A Range N/A Default Value null
number_of_cn	No	Integer	Definition Number of CNs deployed. Constraints N/A Range 2 to <i>Number of cluster nodes</i> . The maximum value is 20 . Default Value 3
enterprise_project_id	No	String	Definition Enterprise project ID for a cluster. If this parameter is not specified, the default value 0 (indicating that the ID of the default enterprise project) is used. Constraints N/A Range N/A Default Value 0

Parameter	Mandatory	Type	Description
tags	No	Tags object	Definition Tag. By default, no tags are specified for the cluster. Constraints N/A Range N/A Default Value null

Table 5-39 PublicIp

Parameter	Mandatory	Type	Description
public_bind_type	No	String	Definition EIP binding type. Constraints N/A Range auto_assign not_use bind_existing Default Value null
eip_id	No	String	Definition EIP ID. Constraints N/A Range N/A Default Value null

Table 5-40 Tags

Parameter	Mandatory	Type	Description
key	Yes	String	Definition Tag key. Constraints N/A Range - It can contain a maximum of 128 Unicode characters. It cannot be an empty string, and cannot start or end with a space. - It cannot contain the following characters: =*<>\./ - Only uppercase letters, lowercase letters, digits, underscores (_), and hyphens (-) are allowed. Default Value N/A
value	Yes	String	Definition Tag value. Constraints N/A Range - The value can contain a maximum of 256 characters and can be an empty string. It cannot start or end with a space. - It cannot contain the following characters: =*<>\./ - Only uppercase letters, lowercase letters, digits, underscores (_), and hyphens (-) are allowed. Default Value N/A

Response Parameters

Status code: 200

Table 5-41 Response body parameters

Parameter	Type	Description
cluster	Cluster object	Definition Cluster object. Range N/A

Table 5-42 Cluster

Parameter	Type	Description
id	String	Definition Cluster ID. Range N/A

Example Requests

Create a data warehouse cluster (AZ: az1.dc1. Node flavor: **dws.m1.xlarge.ultrahigh**. Nodes: 3. Database port: 8000. The public IP address, the security group ID, subnet ID, and VPC ID are configured.)

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 Responses

Status code: 200

Request for creating a cluster submitted.

```
{
  "cluster": {
    "id": "7d85f602-a948-4a30-afd4-e84f47471c15"
  }
}
```

```
}  
}
```

Status Codes

Status Code	Description
200	Request for creating a cluster submitted.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
500	Internal server error.
503	Service unavailable.

5.2.5 Performing a Check Before Cluster Creation

Function

This API is used to perform a pre-check before cluster creation. It can identify problems such as insufficient subnets and quotas in advance, preventing cluster creation failures.

Calling Method

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

URI

POST /v2/{project_id}/cluster-precheck

Table 5-43 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-44 Request body parameters

Parameter	Mandatory	Type	Description
cluster	Yes	ClusterCheckBody object	Definition Cluster verification object. Constraints N/A Range N/A Default Value N/A

Table 5-45 ClusterCheckBody

Parameter	Mandatory	Type	Description
enterprise_project_id	No	String	Definition Enterprise project ID for a cluster. If this parameter is not specified, the default value 0 (indicating that the ID of the default enterprise project) is used. Constraints N/A Range N/A Default Value 0
flavor	Yes	String	Definition Cluster flavor name. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
availability_zones	Yes	Array of strings	Definition AZ list. Constraints N/A Range N/A Default Value N/A
num_node	Yes	Integer	Definition Number of instance nodes. Constraints N/A Range N/A Default Value N/A
security_group_id	No	String	Definition Security group ID. Constraints N/A Range N/A Default Value N/A
datastore_version	Yes	String	Definition Cluster version. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
vpc_id	Yes	String	Definition VPC ID. Constraints N/A Range N/A Default Value N/A
subnet_id	Yes	String	Definition Subnet ID of the cluster. Constraints N/A Range N/A Default Value N/A
public_ip	No	OpenPublicIp object	Definition EIP object. Constraints N/A Range N/A Default Value null
cross_spec_restore	No	String	Definition Cross-specification restoration information. Constraints N/A Range N/A Default Value null

Parameter	Mandatory	Type	Description
volume	No	Volume object	Definition Disk information object. Constraints N/A Range N/A Default Value null
old_cluster_hostname	No	String	Definition Name of the old host. Constraints N/A Range N/A Default Value null
restore_point	No	RestorePoint object	Definition Object about cluster restoration. Constraints N/A Range N/A Default Value null
tag_list	No	Array of Tag objects	Definition Tag list. Constraints N/A Range N/A Default Value null

Parameter	Mandatory	Type	Description
dss_pool_id	No	String	Definition Storage pool ID. Constraints N/A Range N/A Default Value null
db_port	No	String	Definition Database port. Constraints N/A Range 8000 to 30000 Default Value 8000
db_password	No	String	Definition Administrator password. Constraints N/A Range N/A Default Value N/A
db_name	No	String	Definition Administrator account. Constraints N/A Range N/A Default Value dbadmin

Parameter	Mandatory	Type	Description
num_cn	No	Integer	Definition Number of CN nodes. Constraints N/A Range N/A Default Value N/A
name	No	String	Definition Cluster name. Constraints N/A Range N/A Default Value N/A

Table 5-46 OpenPublicIp

Parameter	Mandatory	Type	Description
public_bind_type	No	String	Definition EIP binding type. Constraints N/A Range • auto_assign • not_use: not use • bind_existing Default Value N/A

Parameter	Mandatory	Type	Description
eip_id	No	String	Definition EIP ID. Constraints N/A Range N/A Default Value N/A

Table 5-47 Volume

Parameter	Mandatory	Type	Description
volume	Yes	String	Definition Disk name. Constraints N/A Range • SSD: Ultra-high I/O • SAS: High I/O • SATA: Common I/O Default Value N/A
capacity	No	Integer	Definition Disk capacity in GB. Constraints N/A Range N/A Default Value N/A

Table 5-48 RestorePoint

Parameter	Mandatory	Type	Description
back_ref	No	String	Definition Snapshot ID. Constraints N/A Range N/A Default Value N/A
restore_time	No	Long	Definition Restoration time. Constraints N/A Range N/A Default Value N/A
cluster_id	No	String	Definition Original cluster ID. Constraints N/A Range N/A Default Value N/A

Table 5-49 Tag

Parameter	Mandatory	Type	Description
key	No	String	Definition Tag key. Constraints N/A Range - It can contain a maximum of 128 Unicode characters. It cannot be an empty string, and cannot start or end with a space. - It cannot contain the following characters: =*<>\./ - Only uppercase letters, lowercase letters, digits, underscores (_), and hyphens (-) are allowed. Default Value N/A
value	No	String	Definition Tag value. Constraints N/A Range - The value can contain a maximum of 256 characters and can be an empty string. It cannot start or end with a space. - It cannot contain the following characters: =*<>\./ - Only uppercase letters, lowercase letters, digits, underscores (_), and hyphens (-) are allowed. Default Value N/A

Response Parameters

Status code: 200

Pre-check for cluster creation succeeded.

None

Example Requests

Perform a check before cluster creation. For example, check whether the **dws.m3.xlarge** flavor, three nodes, public IP address, security group, and VPC are available in the AZ **cn-north-7c**.

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/cluster-precheck

{
  "cluster": {
    "flavor": "dws.m3.xlarge",
    "num_node": 3,
    "availability_zones": [ "cn-north-7c" ],
    "vpc_id": "c9f1171e-dc90-4ae9-bf22-f9736983ce2d",
    "subnet_id": "ad9ef23f-1d03-4e52-af80-69604645e109",
    "security_group_id": "f54a4572-d5d2-40b6-823a-79049bd5b71c",
    "public_ip": {
      "public_bind_type": "bind_existing",
      "eip_id": "1923e8b0-cd40-4469-8cb1-64546c7b530c"
    },
    "datastore_version": "8.2.0"
  }
}
```

Example Responses

Status code: 200

Pre-check for cluster creation succeeded.

```
{ }
```

Status Codes

Status Code	Description
200	Pre-check for cluster creation succeeded.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

5.2.6 Restarting a Cluster

Function

This API is used to restart a cluster.

Calling Method

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

URI

POST /v1.0/{project_id}/clusters/{cluster_id}/restart

Table 5-50 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-51 Request body parameters

Parameter	Mandatory	Type	Description
restart	Yes	Object	Definition Restart flag. Constraints N/A Range N/A Default Value N/A

Response Parameters

Status code: 200

The request for restarting the cluster is submitted.

None

Example Requests

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 Responses

Status code: 200

The request for restarting the cluster is submitted.

```
{ }
```

Status Codes

Status Code	Description
200	The request for restarting the cluster is submitted.
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.

5.2.7 Resetting a Password

Function

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

Calling Method

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

URI

POST /v1.0/{project_id}/clusters/{cluster_id}/reset-password

Table 5-52 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-53 Request body parameters

Parameter	Mandatory	Type	Description
new_password	Yes	String	Definition New password of the cluster administrator. Constraints The new password must: • Contain 12 to 32 characters. • Cannot be the username or the username backwards. • Contain at least three of the following four types: – Lowercase letters – Uppercase letters – Number – Special characters (~!?,.,:;-'_'"(){}[]/<>@#%^&*+ =) • Cannot be the same as previous passwords. • Cannot be a weak password. Range N/A Default Value N/A

Response Parameters

Status code: 200

The password is reset.

None

Example Requests

Reset the password of the cluster whose ID is **4ca46bf1-5c61-48ffb4f3-0ad4e5e3ba90** to **NewPassw0rd!**.

POST https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ffb4f3-0ad4e5e3ba90/reset-password

```
{  
  "new_password" : "NewPassw0rd!"  
}
```

Example Responses

Status code: 200

The password is reset.

```
{ }
```

Status Codes

Status Code	Description
200	The password is reset.
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 Canceling Read-only Status of a Cluster

Function

This API is used to cancel the read-only status on the management console. When a cluster is in the read-only state, you cannot perform any database operations. The read-only state may be triggered because the disk usage is too high. You need to clear the cluster data or scale out the cluster.

Constraints

The read-only status can be canceled for clusters of version 1.7.2 or later.

Calling Method

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

URI

POST /v1.0/{project_id}/clusters/{cluster_id}/cancel-readonly

Table 5-54 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

The read-only state is removed successfully.

None

Example Requests

Cancel read-only status.

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

Example Responses

Status code: 200

The read-only state is removed successfully.

```
{}
```

Status Codes

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	Service unavailable.

5.2.9 Deleting a Cluster

Function

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

Calling Method

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

URI

DELETE /v1.0/{project_id}/clusters/{cluster_id}

Table 5-55 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-56 Request body parameters

Parameter	Mandatory	Type	Description
keep_last_manual_snapshot	Yes	Integer	Definition Number of snapshots to be retained in a cluster. Constraints N/A Range N/A Default Value N/A

Response Parameters

Status code: 202

The cluster is deleted successfully.

None

Example Requests

Delete a cluster.

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

```
{  
  "keep_last_manual_snapshot" : 0  
}
```

Example Responses

Status code: 202

The cluster is deleted successfully.

```
{}
```

Status Codes

Status Code	Description
202	The cluster 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.

5.2.10 Querying the DSS Storage Pool List

Function

This API is used to query the list of DSS storage pools. Only SSD dedicated resource pools that you enabled can be queried.

Calling Method

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

URI

GET /v1.0/{project_id}/dss-pools

Table 5-57 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-58 Response body parameters

Parameter	Type	Description
pools	Array of DssPool objects	Definition Details of the DSS storage pools. Range N/A
count	Integer	Definition Number of the DSS storage pools. Range N/A

Table 5-59 DssPool

Parameter	Type	Description
id	String	Definition DSS storage pool name. Range N/A

Parameter	Type	Description
name	String	Definition DSS storage pool ID. Range N/A
type	String	Definition DSS storage pool type. • SSD: ultra-high I/O storage pool. Range N/A
project_id	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
availability_zone	String	Definition AZ where the DSS storage pool is located. Range N/A
capacity	Integer	Definition DSS storage pool capacity, in TB. Range N/A
status	String	Definition DSS storage pool status. Range available : The DSS storage pool is available. deploying : The DSS storage pool is being deployed and cannot be used. extending : The DSS storage pool is being expanded and can be used.

Parameter	Type	Description
created_at	String	Definition Time when the DSS storage pool was created. Range Time format: UTC YYYY-MM-DDTHH:MM:SS

Example Requests

Query the list of dedicated distributed storage pools.

```
GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/dss-pools
```

Example Responses

Status code: 200

DSS storage pool list queried.

```
{
  "pools": [ {
    "id": "c950ee97-587c-4f24-8a74-3367e3da570f",
    "name": "pool-1",
    "type": "SSD",
    "project_id": "63d910f2705a487ebe4e1c274748d9e1",
    "capacity": "1000",
    "availability_zone": "AZ1",
    "status": "available",
    "created_at": "2014-12-18T15:57:56.299000"
  } ],
  "count": 1
}
```

Status Codes

Status Code	Description
200	DSS storage pool list 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.

5.3 Node Change

5.3.1 Querying CN Nodes of a Cluster

Function

This API is used to query the CN node list of a cluster.

Calling Method

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

URI

GET /v1.0/{project_id}/clusters/{cluster_id}/cns

Table 5-60 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-61 Response body parameters

Parameter	Type	Description
min_num	Integer	Definition Minimum number of CN nodes supported by the cluster. Range N/A
max_num	Integer	Definition Maximum number of CN nodes supported by the cluster. Range N/A
instances	Array of CoordinatorNode objects	Definition List of CN details. Range N/A

Table 5-62 CoordinatorNode

Parameter	Type	Description
id	String	Definition Node ID. Range N/A
name	String	Definition Node name. Range N/A
private_ip	String	Definition Private IP address. Range N/A

Example Requests

Query CN node list of a cluster.

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

Example Responses

Status code: 200

CN nodes of the cluster queried.

```
{
  "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 Codes

Status Code	Description
200	CN nodes of the cluster 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.

5.3.2 Adding CN Nodes in Batches

Function

After a cluster is created, the number of required CN nodes varies with workloads. You can add or delete CN nodes as needed.

- Other O&M operations cannot be performed during CN addition or deletion.
- Services need to be stopped during CN node addition or deletion. You are advised to perform this operation during off-peak hours or when services are interrupted.
- If a fault occurs during CN node addition or deletion and the rollback fails, you need to log in to the backend to rectify the fault. For details, see "Cluster Usage" > "Failed to Roll Back CN Addition or Deletion" in *Troubleshooting*.

Calling Method

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

URI

POST /v1.0/{project_id}/clusters/{cluster_id}/cns/batch-create

Table 5-63 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-64 Request body parameters

Parameter	Mandatory	Type	Description
num	Yes	Integer	Definition Total number of CN nodes in the cluster after new CN nodes are added in batches. The number of CN nodes supported by a cluster depends on the cluster version and number of nodes. For details, see "Querying CN Nodes in a Cluster", where min_num indicates the minimum number of CN nodes, and max_num indicates the maximum number of CN nodes. Constraints N/A Range N/A Default Value N/A

Response Parameters

Status code: 200

Table 5-65 Response body parameters

Parameter	Type	Description
job_id	String	Definition ID of the task for adding CN nodes in batches. Range N/A

Example Requests

Add three CN nodes in batches.

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

```
{
  "num" : 3
}
```

Example Responses

Status code: 200

The CN nodes are successfully added in batches.

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

Status Codes

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	Service unavailable.

5.3.3 Deleting CN Nodes in Batches

Function

After a cluster is created, the number of required CN nodes varies with workloads. You can add or delete CN nodes as needed.

- Other O&M operations cannot be performed during CN addition or deletion.
- Services need to be stopped during CN node addition or deletion. You are advised to perform this operation during off-peak hours or when services are interrupted.
- If a fault occurs during CN node addition or deletion and the rollback fails, you need to log in to the backend to rectify the fault. For details, see "Cluster Usage" > "Failed to Roll Back CN Addition or Deletion" in *Troubleshooting*.

Calling Method

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

URI

POST /v1.0/{project_id}/clusters/{cluster_id}/cns/batch-delete

Table 5-66 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-67 Request body parameters

Parameter	Mandatory	Type	Description
instances	No	Array of strings	Definition IDs of the CN nodes to be deleted. Constraints N/A Range The value cannot be left blank. Default Value N/A

Response Parameters

Status code: 200

Table 5-68 Response body parameters

Parameter	Type	Description
job_id	String	Definition Task ID for deleting CN nodes in batches. Range N/A

Example Requests

Delete CN nodes whose IDs are " 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 Responses

Status code: 200

The CN nodes are successfully deleted in batches.

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

Status Codes

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

5.3.4 Scaling Out a Cluster

Function

This API is used to scale out a cluster or add idle nodes. By default, scale-out is performed.

You can configure **create_node_only** to determine whether the current operation is to scale out a cluster or add idle nodes.

- **true**: Add idle nodes.
- **false**: Scale out a cluster.

Calling Method

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

URI

POST /v1.0/{project_id}/clusters/{cluster_id}/resize

Table 5-69 Path Parameters

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-70 Request body parameters

Parameter	Mandatory	Type	Description
scale_out	No	ScaleOut object	Definition Request body for adding an idle node or scaling out a cluster. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
create_node_only	No	Boolean	Definition Whether only idle nodes are added. Constraints N/A Range true : Only nodes are added. If scale-out is required, perform it separately. false : Nodes are added and the cluster is scaled out. Default Value false
waiting_for_killing	No	Integer	Definition Time before blocked job termination. Constraints This parameter is available only for GuestAgent 8.2.1 or later. Range 30 to 1200 Default Value 0 (not limited)

Parameter	Mandatory	Type	Description
auto_redistribute	No	Boolean	Definition Whether to automatically start redistribution after scale-out. The default value is true . If this parameter is set to false , redistribution is not performed after scale-out. In this case, the cluster task information displays To be redistributed and other operations cannot be performed. Constraints N/A Range true : Redistribution is performed immediately after scale-out. false : Redistribution is not performed after scale-out. In this case, the cluster task information displays To be redistributed . Default Value true

Table 5-71 ScaleOut

Parameter	Mandatory	Type	Description
count	Yes	Integer	Definition Number of nodes to be added. Range Greater than or equal to 3
subnet_id	No	String	Definition Subnet ID. Range The value is a valid subnet ID in the same VPC.

Response Parameters

Status code: 200

Request for scaling out a cluster is submitted.

None

Example Requests

- Add three nodes to a cluster.

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

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

- Add three idle nodes to a cluster for the scale-out operation in example 3.

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

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

Example Responses

Status code: 200

Request for scaling out a cluster is submitted.

```
{ }
```

Status Codes

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

5.3.5 Scaling In a Cluster

Function

This API is used to scale in a cluster.

Calling Method

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

URI

POST /v1.0/{project_id}/clusters/{cluster_id}/cluster-shrink

Table 5-72 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A

Request Parameters

Table 5-73 Request body parameters

Parameter	Mandatory	Type	Description
shrink_number	No	Integer	Definition Number of nodes to be scaled in. Constraints This parameter cannot be left blank. Range An integer greater than 0 Default Value N/A
online	No	Boolean	Definition Whether the scale-in is online. Constraints N/A Range false or true Default Value false
retry	No	Boolean	Definition Whether to retry after a scale-in failure. Constraints N/A Range false or true Default Value false
need_agency	No	Boolean	Definition Whether an agency is required. Constraints N/A Range false or true Default Value false

Parameter	Mandatory	Type	Description
parallel_jobs	No	Integer	Definition Number of concurrent redistribution tasks. Constraints N/A Range 1 to 200 Default Value 4
type	No	String	Definition Type. This field has been deprecated and does not take effect. Constraints N/A Range N/A Default Value N/A
force_backup	No	Boolean	Definition Whether to back up data before the operation. This parameter has been deprecated and does not take effect. Constraints N/A Range N/A Default Value N/A

Response Parameters

Status code: 200

Table 5-74 Response body parameters

Parameter	Type	Description
job_id	String	Definition ID of a scale-in task. Range N/A

Example Requests

Scale in three nodes in the standard data warehouse cluster whose ID is **4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90** offline and create an agency.

```
POST https://{Endpoint} /v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/shrink
{
  "shrink_number" : 3,
  "online" : false,
  "retry" : false,
  "need_agency" : true,
  "parallel_jobs" : 2
}
```

Example Responses

Status code: 200

The scale-in request is submitted successfully.

```
{
  "job_id" : "2c9081c88418ed420184197c8bc80001"
}
```

Status Codes

Status Code	Description
200	The scale-in request is submitted 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.

5.4 Resource Management

5.4.1 Querying Whether Resource Management Is Enabled

Function

This API is used to query whether resource management is enabled.

Calling Method

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

URI

GET /v2/{project_id}/clusters/{cluster_id}/workload

Table 5-75 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-76 Response body parameters

Parameter	Type	Description
workload_res_code	Integer	Definition Result status code. Range N/A
workload_res_str	String	Definition Result description. Range N/A
workload_status	WorkloadStatus object	Definition Resource management status Range N/A

Table 5-77 WorkloadStatus

Parameter	Type	Description
workload_switch	String	Definition Switch Constraints N/A Range on : enabled off : disabled Default Value N/A

Parameter	Type	Description
max_concurrency_num	Integer	Definition Maximum concurrency Constraints N/A Range N/A Default Value N/A

Example Requests

Query whether resource management is enabled.

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

Example Responses

Status code: 200

Query succeeded.

```
{
  "workload_res_code" : 0,
  "workload_res_str" : "Success get workload manager status.",
  "workload_status" : {
    "workload_switch" : "on",
    "max_concurrency_num" : 60
  }
}
```

Status Codes

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

5.4.2 Creating a Resource Management Plan

Function

This API is used to create a resource management plan.

Calling Method

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

URI

POST /v2/{project_id}/clusters/{cluster_id}/workload/plans

Table 5-78 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A

Request Parameters

Table 5-79 Request body parameters

Parameter	Mandatory	Type	Description
plan_name	Yes	String	Definition Plan name Constraints N/A Range N/A Default Value N/A
logical_cluster_name	No	String	Definition Logical cluster name. Constraints N/A Range N/A Default Value N/A

Response Parameters

Status code: 200

Table 5-80 Response body parameters

Parameter	Type	Description
workload_res_code	Integer	Definition Response code Range N/A
workload_res_str	String	Definition Response information. Range N/A

Example Requests

Create the resource management plan **test2**.

```
POST https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/plans
```

```
{
  "plan_name": "planA",
  "logical_cluster_name": "v3_logical"
}
```

Example Responses

Status code: 200

Operation succeeded.

```
{
  "workload_res_code": 0,
  "workload_res_str": ""
}
```

Status Codes

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

5.4.3 Querying Resource Pools

Function

This API is used to query resource pools.

Calling Method

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

URI

GET /v2/{project_id}/clusters/{cluster_id}/workload/queues

Table 5-81 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A

Table 5-82 Query Parameters

Parameter	Mandatory	Type	Description
logical_cluster_name	No	String	Definition Logical cluster name. This field is mandatory in logical cluster mode. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-83 Response body parameters

Parameter	Type	Description
workload_queue_name_list	Array of strings	Definition Resource pool name. Range N/A
workload_res_code	Integer	Definition Result status code. Range N/A
workload_res_str	String	Definition Result description. Range N/A

Example Requests

Query resource pools.

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

Example Responses

Status code: 200

Resource pools queried.

```
{
  "workload_queue_name_list" : [ "test1" ]
}
```

Status Codes

Status Code	Description
200	Resource pools queried.
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.

5.4.4 Creating a Resource Pool

Function

This API is used to create a resource pool.

Calling Method

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

URI

PUT /v2/{project_id}/clusters/{cluster_id}/workload/queues

Table 5-84 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A

Request Parameters

Table 5-85 Request body parameters

Parameter	Mandatory	Type	Description
workload_queue	Yes	WorkloadQueue object	Definition Resource pool information. Constraints N/A Range N/A Default Value N/A

Table 5-86 WorkloadQueue

Parameter	Mandatory	Type	Description
workload_queue_name	Yes	String	Definition Resource pool name. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
logical_cluster_name	No	String	Definition Logical cluster name. Constraints N/A Range N/A Default Value N/A
workload_resource_item_list	Yes	Array of WorkloadResource objects	Definition Resource configuration queue. Constraints N/A Range N/A Default Value N/A

Table 5-87 WorkloadResource

Parameter	Mandatory	Type	Description
resource_name	Yes	String	Definition Resource name. Constraints N/A Range N/A Default Value N/A
resource_value	Yes	Integer	Definition Resource attribute value. Constraints N/A Range N/A Default Value N/A

Response Parameters

Status code: 200

Table 5-88 Response body parameters

Parameter	Type	Description
workload_res_code	Integer	Definition Response code Range N/A
workload_res_str	String	Definition Response information. Range N/A

Example Requests

Create a resource pool (Name: **test11**. CPU share: **12%**. Memory resource: **0** (no limit). Storage resource: **-1** (no limit). Concurrent: **10**).

```
PUT https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/workload/queues
```

Example Responses

Status code: 200

Operation succeeded.

```
{
  "workload_res_code" : 0,
  "workload_res_str" : ""
}
```

Status Codes

Status Code	Description
200	Operation 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	Service unavailable.

5.4.5 Deleting a Resource Pool

Function

This API is used to delete a resource pool.

Calling Method

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

URI

DELETE /v2/{project_id}/clusters/{cluster_id}/workload/queues

Table 5-89 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A

Table 5-90 Query Parameters

Parameter	Mandatory	Type	Description
logical_cluster_name	No	String	Definition Logical cluster name. This field is mandatory in logical cluster mode. Constraints N/A Range N/A Default Value N/A
workload_queue_name	Yes	String	Definition Resource pool name. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-91 Response body parameters

Parameter	Type	Description
workload_res_code	Integer	Definition Response code Range N/A
workload_res_str	String	Definition Response information. Range N/A

Example Requests

```
DELETE https://{Endpoint}/v2/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/workload/queues
```

Example Responses

Status code: 200

Resource pool deleted.

```
{
  "workload_res_code" : 0,
  "workload_res_str" : ""
}
```

Status Codes

Status Code	Description
200	Resource pool 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.

5.4.6 Enabling or Disabling Resource Management

Function

This API is used to enable or disable resource management. The function is enabled by default for new clusters.

Calling Method

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

URI

POST /v2/{project_id}/clusters/{cluster_id}/workload

Table 5-92 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A

Request Parameters

Table 5-93 Request body parameters

Parameter	Mandatory	Type	Description
workload_status	No	WorkloadStatus object	Definition Request for resource management status Constraints N/A Range N/A Default Value N/A

Table 5-94 WorkloadStatus

Parameter	Mandatory	Type	Description
workload_switch	Yes	String	Definition Switch Constraints N/A Range on : enabled off : disabled Default Value N/A
max_concurrency_num	No	Integer	Definition Maximum concurrency Constraints N/A Range N/A Default Value N/A

Response Parameters

Status code: 200

Table 5-95 Response body parameters

Parameter	Type	Description
workload_res_code	Integer	Definition Response code Range N/A
workload_res_str	String	Definition Response information. Range N/A

Example Requests

Enable resource management and set the maximum number of concurrent tasks to 5.

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

Example Responses

Status code: 200

Resource management configured.

```
{
  "workload_res_code" : 0,
  "workload_res_str" : ""
}
```

Status Codes

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

5.5 Snapshot Management

5.5.1 Creating a Snapshot

Function

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

Calling Method

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

URI

```
POST /v1.0/{project_id}/snapshots
```

Table 5-96 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-97 Request body parameters

Parameter	Mandatory	Type	Description
snapshot	Yes	Snapshot object	Definition Snapshot object. Constraints N/A Range N/A Default Value N/A

Table 5-98 Snapshot

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Snapshot name. It must be unique and start with a letter. It consists of 4 to 64 characters. Only letters (case-insensitive), digits, hyphens (-), and underscores (_) are allowed. Range N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	Definition ID of the cluster for which you want to create a snapshot. Range N/A
description	No	String	Definition Snapshot description. If no value is specified, the description is empty. The value can contain a maximum of 256 characters. The following special characters are not allowed: !<>'=&" Range N/A

Response Parameters

Status code: 200

Table 5-99 Response body parameters

Parameter	Type	Description
snapshot	SnapshotResp object	Definition Snapshot object. Range N/A

Table 5-100 SnapshotResp

Parameter	Type	Description
id	String	Definition Snapshot ID. Range N/A

Example Requests

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 Responses

Status code: 200

The snapshot is created.

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

Status Codes

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

5.5.2 Querying the Snapshot List

Function

This API is used to query the snapshot list.

Calling Method

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

URI

GET /v1.0/{project_id}/snapshots

Table 5-101 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-102 Response body parameters

Parameter	Type	Description
snapshots	Array of Snapshots objects	Definition List of snapshot objects. Range N/A
count	Integer	Definition Total number of records in the list. Range N/A

Table 5-103 Snapshots

Parameter	Type	Description
id	String	Definition Snapshot ID. Range N/A

Parameter	Type	Description
name	String	Definition Snapshot name. Range N/A
description	String	Definition Snapshot description. Range N/A
started	String	Definition Snapshot creation time. The format is ISO8601: YYYY-MM-DDThh:mm:ssZ. Range N/A
finished	String	Definition Time when a snapshot is complete. Format: ISO8601: YYYY-MM-DDThh:mm:ssZ. Range N/A
size	Double	Definition Snapshot size, in GB. Range N/A
status	String	Definition Snapshot status. Range • CREATING • AVAILABLE • UNAVAILABLE • FROZEN • POLICE_FROZEN
type	String	Definition Snapshot type. Range N/A

Parameter	Type	Description
cluster_id	String	Definition ID of the cluster for which the snapshot is created. Range N/A

Example Requests

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

Example Responses

Status code: 200
Snapshot list queried.

```
{
  "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 Codes

Status Code	Description
200	Snapshot list queried.
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	Service unavailable.

5.5.3 Querying the Cluster Snapshot List

Function

This API is used to query the cluster snapshot list.

Calling Method

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

URI

GET /v1.0/{project_id}/clusters/{cluster_id}/snapshots

Table 5-104 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A

Table 5-105 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Definition Size of a single page. Constraints N/A Range Greater than 0 Default Value No limit.
offset	No	Integer	Definition Page offset, which starts from 0 (page number minus 1). Constraints N/A Range Greater than or equal to 0 Default Value 0
sort_key	No	String	Definition Sorting field. Constraints N/A Range N/A Default Value N/A
sort_dir	No	String	Definition Sorting rule. Constraints N/A Range asc desc Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-106 Response body parameters

Parameter	Type	Description
snapshots	Array of ClusterSnapshots objects	Definition List of snapshot objects. Range N/A
project_id	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	String	Definition Cluster ID. Range It is a 36-digit UUID.
count	Integer	Definition Total number of snapshot objects. Range N/A

Table 5-107 ClusterSnapshots

Parameter	Type	Description
id	String	Definition Snapshot ID. Range N/A

Parameter	Type	Description
name	String	Definition Snapshot name. Range N/A
description	String	Definition Snapshot description. Range N/A
started	String	Definition Snapshot creation time. The format is ISO8601: YYYY-MM-DDThh:mm:ssZ. Range N/A
size	Double	Definition Snapshot size, in GB. Range N/A
status	String	Definition Snapshot status. Range CREATING AVAILABLE UNAVAILABLE RESTORING FROZEN POLICE_FROZEN
cluster_id	String	Definition ID of the cluster for which the snapshot is created. Range N/A
datastore	Datastore object	Definition Snapshot version. Range N/A

Parameter	Type	Description
cluster_name	String	Definition Name of the cluster for which the snapshot is created. Range N/A
updated	String	Definition The time when the snapshot was updated. Range N/A
type	String	Definition Snapshot type. Range MANUAL : manual snapshot. AUTO : automatic snapshot.
bak_expected_start_time	String	Definition Estimated start time of a snapshot. Range N/A
bak_keep_day	Integer	Definition Retention days for a snapshot. Range N/A
bak_period	String	Definition Snapshot policy. Range N/A
db_user	String	Definition Database user. Range N/A
progress	String	Definition Snapshot progress. Range N/A

Parameter	Type	Description
backup_key	String	Definition Snapshot backup key. Range N/A
prior_backup_key	String	Definition Backup key of the previous snapshot used by the incremental backup. Range N/A
base_backup_key	String	Definition Key of the full snapshot backup. Range N/A
backup_device	String	Definition Backup media. Range N/A
total_backup_size	Integer	Definition Total size of snapshots. Range N/A
base_backup_name	String	Definition Name of the full snapshot. Range N/A
support_inplace_restore	Boolean	Definition Whether in-place restoration is supported. Range N/A
fine_grained_backup	Boolean	Definition Whether fine-grained backup is used. Range N/A

Parameter	Type	Description
backup_level	String	Definition Backup level. Range N/A
fine_grained_backup_detail	FineGrainedSnapshotDetail object	Definition Fine-grained backup information. Range N/A
guest_agent_version	String	Definition GuestAgent version. Range N/A
cluster_status	String	Definition Cluster status. Range N/A

Table 5-108 Datastore

Parameter	Type	Description
type	String	Definition Cluster type. Range N/A
version	String	Definition Cluster version. Range N/A

Table 5-109 FineGrainedSnapshotDetail

Parameter	Type	Description
database	String	Definition Database. Range N/A

Parameter	Type	Description
schema_list	Array of strings	Definition Schema list. Range N/A
table_list	Array of strings	Definition Table set. Range N/A

Example Requests

```
GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/snapshots
```

Example Responses

Status code: 200

Snapshot list queried.

```
{
  "project_id": "2a4d0f86-67cd-408a-8b66-017454fb7793",
  "cluster_id": "e59d6b86-9072-46eb-a996-13f8b44994c1",
  "snapshots": [ {
    "id": "2a4d0f86-67cd-408a-8b66-017454fb7793",
    "name": "snapshot-1",
    "description": "",
    "size": 500,
    "status": "AVAILABLE",
    "type": "MANUAL",
    "backup_device": "obs",
    "backup_key": "20221027_041552",
    "bak_expected_start_time": "1666843740000",
    "bak_keep_day": 3,
    "bak_period": "0 9 4/8 ? * 2,3,4,5,6,7",
    "base_backup_key": "20221025_201556",
    "base_backup_name": "dws-test-20221025201427",
    "cluster_id": "e59d6b86-9072-46eb-a996-13f8b44994c1",
    "cluster_name": "test_1025_02",
    "datastore": {
      "type": "dws",
      "version": "8.2.0"
    },
    "db_user": "dbadmin",
    "fine_grained_backup": false,
    "guest_agent_version": "8.2.0",
    "prior_backup_key": "20221026_201555",
    "support_inplace_restore": true,
    "total_backup_size": 813475,
    "updated": "2022-10-27T04:18:57"
  } ],
  "count": 2
}
```

Status Codes

Status Code	Description
200	Snapshot list 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.

5.5.4 Querying a Snapshot Policy

Function

This API is used to query a snapshot policy.

Calling Method

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

URI

GET /v2/{project_id}/clusters/{cluster_id}/snapshot-policies

Table 5-110 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-111 Response body parameters

Parameter	Type	Description
keep_day	Integer	Definition Retention days. Range Greater than or equal to 0
backup_strategies	Array of BackupStrategyDetail objects	Definition Backup policy list. Range N/A
device_name	String	Definition Backup device, which is OBS in most cases. Range N/A

Parameter	Type	Description
server_ips	Array of strings	Definition Service IP address. Range N/A
server_port	String	Definition Server port. Range N/A
backup_param	String	Definition Backup parameters. Range N/A
auto_backup	Boolean	Definition Whether automated backup is enabled. Range true : Automated backup is enabled. false : Automated backup is disabled.
backup_strategy_cluster_type_limit_num	Integer	Definition Maximum number of cluster-level snapshots in this policy. Range Greater than or equal to 0
backup_strategy_schema_type_limit_num	Integer	Definition Maximum number of schema-level snapshots in this policy. Range Greater than or equal to 0

Table 5-112 BackupStrategyDetail

Parameter	Type	Description
policy_id	String	Definition Policy ID. Range N/A

Parameter	Type	Description
policy_name	String	Definition Policy name. Range N/A
backup_strategy	String	Definition Execution policy. Generally, the value is a crontab expression. Range N/A
backup_type	String	Definition Backup type. Range N/A
backup_level	String	Definition Backup level. Range N/A
next_fire_time	String	Definition Estimated time for the next trigger of the task (it will not execute if the task conflicts with other tasks). Range N/A
update_time	String	Definition Update time. Range N/A
time_zone_offset	Integer	Definition Time zone offset (compared with UTC time). Range 0 to 23

Example Requests

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

Example Responses

Status code: 200

Snapshot policy queried.

```
{
  "keep_day" : 3,
  "backup_strategies" : [ {
    "policy_id" : "3b5464ad-74a5-42cc-9667-76122839109a",
    "policy_name" : "apie-default-full-strategy",
    "backup_strategy" : "0 0 2 ? * 1",
    "backup_type" : "full",
    "backup_level" : "cluster",
    "next_fire_time" : "1747533600000",
    "update_time" : "2025-05-11T10:06:16",
    "time_zone_offset" : 0
  }, {
    "policy_id" : "ceaeaf07-d600-494c-86d7-caa0fbf0858a",
    "policy_name" : "apie-default-increment-strategy",
    "backup_strategy" : "0 7 2/8 ? * 2,3,4,5,6,7",
    "backup_type" : "increment",
    "backup_level" : "cluster",
    "next_fire_time" : "1747015620000",
    "update_time" : "2025-05-11T10:06:16",
    "time_zone_offset" : 0
  } ],
  "device_name" : "OBS",
  "server_ips" : null,
  "server_port" : null,
  "backup_param" : null,
  "auto_backup" : true,
  "backup_strategy_cluster_type_limit_num" : 10,
  "backup_strategy_schema_type_limit_num" : 50
}
```

Status Codes

Status Code	Description
200	Snapshot policy 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.

5.5.5 Querying Snapshot Details

Function

This API is used to query snapshot details using the snapshot ID.

Calling Method

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

URI

GET /v1.0/{project_id}/snapshots/{snapshot_id}

Table 5-113 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
snapshot_id	Yes	String	Definition Snapshot ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-114 Response body parameters

Parameter	Type	Description
snapshot	SnapshotDetail object	Definition Snapshot details. Range N/A

Table 5-115 SnapshotDetail

Parameter	Type	Description
id	String	Definition Snapshot ID. Range N/A
name	String	Definition Snapshot name. Range N/A
description	String	Definition Snapshot description. Range N/A
started	String	Definition Snapshot creation time. The format is ISO8601: YYYY-MM-DDThh:mm:ssZ. Range N/A
finished	String	Definition Time when a snapshot is complete. Format: ISO8601: YYYY-MM-DDThh:mm:ssZ. Range N/A
size	Double	Definition Snapshot size, in GB. Range N/A

Parameter	Type	Description
status	String	Definition Snapshot status. Range CREATING AVAILABLE UNAVAILABLE FROZEN POLICE_FROZEN
type	String	Definition Snapshot type. Range N/A
cluster_id	String	Definition ID of the cluster for which the snapshot is created. Range N/A
datastore	Datastore object	Definition Snapshot version. Range N/A
cluster_name	String	Definition Name of the cluster for which the snapshot is created. Range N/A
bak_expected_start_time	String	Definition Estimated start time of a snapshot. Range N/A
bak_keep_day	Integer	Definition Retention days for a snapshot. Range N/A

Parameter	Type	Description
bak_period	String	Definition Snapshot policy. Range N/A
db_user	String	Definition Database user. Range N/A
progress	String	Definition Snapshot progress. Range N/A
backup_key	String	Definition Snapshot backup key. Range N/A
prior_backup_key	String	Definition Incremental snapshot. The backup key of the previous snapshot is used. Range N/A
base_backup_key	String	Definition Backup key of the full snapshot. Range N/A
backup_device	String	Definition Backup media. Range NBU or OBS
total_backup_size	Integer	Definition Total size of snapshots. Range N/A

Parameter	Type	Description
base_backup_name	String	Definition Name of the full snapshot. Range N/A
support_inplace_restore	Boolean	Definition Whether in-place restoration is supported. Range N/A
fine_grained_backup	Boolean	Definition Whether fine-grained backup is used. Range N/A
backup_level	String	Definition Backup level. Range N/A
fine_grained_backup_detail	FineGrainedSnapshotDetail object	Definition Fine-grained backup information. Range N/A
guest_agent_version	String	Definition GuestAgent version. Range N/A
cluster_status	String	Definition Cluster status. Range N/A

Table 5-116 Datastore

Parameter	Type	Description
type	String	Definition Cluster type. Range N/A
version	String	Definition Cluster version. Range N/A

Table 5-117 FineGrainedSnapshotDetail

Parameter	Type	Description
database	String	Definition Database. Range N/A
schema_list	Array of strings	Definition Schema list. Range N/A
table_list	Array of strings	Definition Table set. Range N/A

Example Requests

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

Example Responses

Status code: 200

Snapshot details queried.

```
{
  "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 Codes

Status Code	Description
200	Snapshot details 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.

5.5.6 Deleting a Snapshot Policy

Function

This API is used to delete a snapshot policy.

Calling Method

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

URI

DELETE /v1.0/{project_id}/clusters/{cluster_id}/snapshot-policies/{id}

Table 5-118 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A
id	Yes	String	Definition Snapshot policy ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

The snapshot policy is deleted.

None

Example Requests

```
DELETE https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/snapshot-policies/4db196c8-32fc-4bf1-bf57-05980bbda9a4
```

Example Responses

None

Status Codes

Status Code	Description
200	The snapshot policy 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.

5.5.7 Deleting a Snapshot

Function

This API is used to delete a manual snapshot.

Calling Method

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

URI

```
DELETE /v1.0/{project_id}/snapshots/{snapshot_id}
```

Table 5-119 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
snapshot_id	Yes	String	Definition Snapshot ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 202
The snapshot is deleted.
None

Example Requests

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

Example Responses

None

Status Codes

Status Code	Description
202	The snapshot 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.

5.5.8 Restoring a Cluster

Function

This API is used to restore a cluster using a snapshot.

Calling Method

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

URI

POST /v1.0/{project_id}/snapshots/{snapshot_id}/actions

Table 5-120 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
snapshot_id	Yes	String	Definition ID of the snapshot to be restored. Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-121 Request body parameters

Parameter	Mandatory	Type	Description
restore	Yes	Restore object	Definition Objects of cluster restoration. Range N/A

Table 5-122 Restore

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Cluster name. Range The value must be unique. It must contain 4 to 64 characters and start with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed.
subnet_id	No	String	Definition Subnet ID, which is used for configuring the cluster network. Range The default value is the same as that of the original cluster.

Parameter	Mandatory	Type	Description
security_group_id	No	String	Definition Security group ID, which is used for configuring the cluster network. The default value is the same as that of the original cluster. Range N/A
vpc_id	No	String	Definition VPC ID, which is used for configuring cluster network. The default value is the same as that of the original cluster. Range N/A
availability_zone	No	String	Definition AZ of the cluster. The default value is the same as that of the original cluster. Range N/A
port	No	Integer	Definition Cluster service port. Range N/A
public_ip	No	PublicIP object	Definition Public IP address. If the parameter is not specified, public connection is not used by default. Range N/A

Parameter	Mandatory	Type	Description
enterprise_project_id	No	String	Definition Enterprise project ID for a cluster. If this parameter is not specified, the default value 0 (indicating that the ID of the default enterprise project) is used. Constraints N/A Range N/A Default Value 0
ipv6_enable	No	Boolean	Definition Network protocol type. It indicates whether IPv6 is supported. By default, IPv6 is not used. Range N/A

Table 5-123 PublicIp

Parameter	Mandatory	Type	Description
public_bind_type	No	String	Definition EIP binding type. Constraints N/A Range auto_assign not_use bind_existing Default Value null

Parameter	Mandatory	Type	Description
eip_id	No	String	Definition EIP ID. Constraints N/A Range N/A Default Value null

Response Parameters

Status code: 200

Table 5-124 Response body parameters

Parameter	Type	Description
cluster	Cluster object	Definition Cluster object. Range N/A

Table 5-125 Cluster

Parameter	Type	Description
id	String	Definition Cluster ID. Range N/A

Example Requests

Restore the snapshot to the new cluster **dws-1**. (AZ: **az1.dc1**. Database port: **8000**. The subnet ID, security group ID, VPC ID, public IP address, and enterprise ID are specified)

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

```
{
  "restore": {
    "name": "dws-1",
    "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,
  "public_ip" : {
    "public_bind_type" : "auto_assign",
    "eip_id" : ""
  },
  "enterprise_project_id" : "aca4e50a-266f-4786-827c-f8d6cc3fbada"
}
```

Example Responses

Status code: 200

The request for restoring a cluster is submitted.

```
{
  "cluster" : {
    "id" : "7d85f602-a948-4a30-afd4-e84f47471c15"
  }
}
```

Status Codes

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

5.5.9 Copying a Snapshot

Function

This API is used to copy an automated snapshot.

Calling Method

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

URI

POST /v1.0/{project_id}/snapshots/{snapshot_id}/linked-copy

Table 5-126 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
snapshot_id	Yes	String	Definition Snapshot ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-127 Request body parameters

Parameter	Mandatory	Type	Description
backup_name	Yes	String	Definition Snapshot name. Range N/A
description	No	String	Definition Description. Range N/A

Response Parameters

Status code: 200

Table 5-128 Response body parameters

Parameter	Type	Description
snapshot_id	String	Definition Snapshot ID. Range N/A

Example Requests

Copy an automated snapshot. The snapshot name is **test1**.

```
POST https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/snapshots/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/linked-copy
{
  "backup_name" : "backup20",
  "description" : "description"
}
```

Example Responses

Status code: 200

Operation succeeded.

```
{
  "snapshot_id" : "4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba92"
}
```

Status Codes

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

5.5.10 Adding a Snapshot Policy

Function

This API is used to configure a snapshot policy.

Calling Method

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

URI

PUT /v2/{project_id}/clusters/{cluster_id}/snapshot-policies

Table 5-129 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A

Request Parameters

Table 5-130 Request body parameters

Parameter	Mandatory	Type	Description
keep_day	No	Integer	Definition Retention days. Range 1 to 31.
backup_strategies	No	Array of BackupStrategyRequest objects	Definition Policy list. This parameter is mandatory when you add a policy. Range N/A
device_name	No	String	Definition Backup device. OBS, NBU, and NFS are supported. Range N/A
server_port	No	String	Definition Port of the NBU backup media. This parameter is mandatory when the backup medium is NBU. Range N/A
backup_param	No	String	Definition NBU backup parameters. This parameter is mandatory when the backup medium is NBU. Range N/A

Parameter	Mandatory	Type	Description
server_ips	No	Array of strings	Definition 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. Range N/A

Table 5-131 BackupStrategyRequest

Parameter	Mandatory	Type	Description
policy_id	No	String	Definition Policy ID. Range N/A
policy_name	No	String	Definition 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 (_). Range N/A
backup_strategy	No	String	Definition Execution policy. This parameter is mandatory when you add a backup policy. The value must comply with the cron expression format. Range N/A

Parameter	Mandatory	Type	Description
backup_type	No	String	Definition Backup type. Range full : full backup increment : incremental backup
backup_level	No	String	Definition Backup level. Range cluster

Response Parameters

Status code: 200

Request succeeded.

None

Example Requests

Add a cluster-level full snapshot policy named **test** (A snapshot is created at 03:00 every Monday to Sunday).

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

Example Responses

Status code: 200

Request succeeded.

```
{ }
```

Status Codes

Status Code	Description
200	Request succeeded.
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	Service unavailable.

5.6 Data Sources

5.6.1 Querying Data Sources

Function

This API is used to query data sources.

Calling Method

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

URI

GET /v1.0/{project_id}/clusters/{cluster_id}/ext-data-sources

Table 5-132 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-133 Response body parameters

Parameter	Type	Description
data_sources	Array of ExtDataSource objects	Definition Data source list. Range N/A
project_id	String	Definition Project ID. Range N/A
cluster_id	String	Definition Cluster ID. Range It is a 36-digit UUID.
type	String	Definition Data source type. Range N/A

Parameter	Type	Description
count	Integer	Definition Total number. Range N/A

Table 5-134 ExtDataSource

Parameter	Type	Description
id	String	Definition Data source ID. Range N/A
name	String	Definition Data source name. Range N/A
type	String	Definition Type. Range N/A
connect_info	String	Definition Database. Range N/A
user_name	String	Definition Username. Range N/A
version	String	Definition Version. Range N/A
configure_status	String	Definition Configuration status. Range N/A

Parameter	Type	Description
status	String	Definition Status. Range N/A
data_source_id	String	Definition External data source ID. Range N/A
created	String	Definition Creation time. Range N/A
updated	String	Definition Update time. Range N/A
data_source_updated	String	Definition Data source update time. Range N/A
extend_properties	Object	Definition Extended information. Range N/A
description	String	Definition Description. Range N/A
fail_reason	String	Definition Failure cause. Range N/A

Example Requests

```
GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/ext-data-sources
```

Example Responses

Status code: 200

Query succeeded.

```
{
  "data_sources": [ {
    "id": "8010dbc0-c1d2-48d6-87eb-3229f9195fed",
    "name": "tes54",
    "type": "OBS",
    "connect_info": "gaussdb",
    "user_name": "DWSAccessOBS",
    "configure_status": "300",
    "created": "2022-10-30T07:38:33",
    "extend_properties": { },
    "description": "xxx",
    "fail_reason": ""
  } ],
  "project_id": "0536cdee2200d5912f7cc00b877980f1",
  "cluster_id": "a07cb2f7-b17e-4d95-923b-a33d0c884d37",
  "type": "OBS",
  "count": 5
}
```

Status Codes

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

5.6.2 Creating a Data Source

Function

This API is used to create a data source.

Calling Method

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

URI

POST /v1.0/{project_id}/clusters/{cluster_id}/ext-data-sources

Table 5-135 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A

Request Parameters

Table 5-136 Request body parameters

Parameter	Mandatory	Type	Description
data_source_id	No	String	Definition External data source ID. This parameter is mandatory when the data source is MRS. Range N/A
type	Yes	String	Definition Data source type. Range N/A

Parameter	Mandatory	Type	Description
data_source_name	Yes	String	Definition Name of the external data source. Range The value can contain 1 to 64 characters. Only uppercase letters, lowercase letters, numbers, and underscores (_) are allowed.
user_name	Yes	String	Definition Username. If the data source is OBS, set this parameter to the OBS agency name. Range The value can contain 3 to 20 characters. Only uppercase letters, lowercase letters, numbers, and underscores (_) are allowed.
user_pwd	No	String	Definition Password. This parameter is mandatory when the data source is MRS. Range N/A
description	No	String	Definition Description. Range Characters excluding <>'\=& Max. 256 characters
reboot	No	Boolean	Definition Whether to restart the cluster. Range N/A
connect_info	No	String	Definition Connected database. This parameter is mandatory when the data source is OBS. Range N/A

Response Parameters

Status code: 200

Table 5-137 Response body parameters

Parameter	Type	Description
id	String	Definition Data source ID. Range N/A
job_id	String	Definition ID of the task for creating a data source. Range N/A

Example Requests

Create an OBS data source named **source1** and set the username to **DWSAccessOBS**, and connect it to GaussDB.

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

```
{
  "type": "OBS",
  "data_source_name": "source1",
  "user_name": "DWSAccessOBS",
  "connect_info": "gaussdb",
  "description": "description"
}
```

Example Responses

Status code: 200

Request submitted.

```
{
  "id": "d303f19c-fbd1-4716-ae04-07d1ff358f22",
  "job_id": "2c9081c88418ed420184197c8bc80001"
}
```

Status Codes

Status Code	Description
200	Request submitted.
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.

5.6.3 Editing a Data Source

Function

This API is used to edit a data source.

Calling Method

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

URI

PUT /v1.0/{project_id}/clusters/{cluster_id}/ext-data-sources/{ext_data_source_id}

Table 5-138 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A
ext_data_source_id	Yes	String	Definition Data source ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-139 Request body parameters

Parameter	Mandatory	Type	Description
reconfigure	Yes	ReconfigureExtDataSourceAction object	Definition Data source configuration. Range N/A

Table 5-140 ReconfigureExtDataSourceAction

Parameter	Mandatory	Type	Description
reboot	No	Boolean	Definition Reboot. Range N/A

Parameter	Mandatory	Type	Description
agency	No	String	Definition Agency. Range N/A

Response Parameters

Status code: 200

Table 5-141 Response body parameters

Parameter	Type	Description
job_id	String	Definition ID of the task for updating a data source. Range N/A
data_source_id	String	Definition Data source ID. Range N/A

Example Requests

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
```

Example Responses

Status code: 200

Request submitted.

```
{
  "data_source_id": "d303f19c-fbd1-4716-ae04-07d1ff358f22",
  "job_id": "2c9081c88418ed420184197c8bc80001"
}
```

Status Codes

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

5.6.4 Deleting a Data Source

Function

This API is used to delete a data source.

Calling Method

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

URI

DELETE /v1.0/{project_id}/clusters/{cluster_id}/ext-data-sources/
{ext_data_source_id}

Table 5-142 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A
ext_data_source_id	Yes	String	Definition Data source ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-143 Response body parameters

Parameter	Type	Description
job_id	String	Definition ID of the task for deleting a data source. Range N/A

Example Requests

```
DELETE https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/4ca46bf1-5c61-48ff-b4f3-0ad4e5e3ba90/ext-data-sources/d303f19c-fbd1-4716-ae04-07d1ff358f22
```

Example Responses

Status code: 200

Request submitted.

```
{
  "job_id" : "2c9081c88418ed420184197c8bc80001"
}
```

Status Codes

Status Code	Description
200	Request submitted.
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 Connection Management

5.7.1 Applying for a Domain Name

Function

This API is used to apply for a domain name for a specified cluster.

Calling Method

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

URI

POST /v1.0/{project_id}/clusters/{cluster_id}/dns

Table 5-144 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-145 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Domain name to be created. Range N/A
type	Yes	String	Definition Domain name type. Range public private

Parameter	Mandatory	Type	Description
ttl	Yes	Integer	Definition Caching duration of the SOA record set, in seconds. The default value is 300 , in seconds. Range 300 to 2147483647

Response Parameters

Status code: 200

The domain name is successfully applied for.

None

Example Requests

Apply for the public domain name **demo** (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 Responses

None

Status Codes

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	Service unavailable.

5.7.2 Modifying a Cluster Domain Name

Function

This API is used to change the domain name of a specified cluster.

Calling Method

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

URI

PUT /v1.0/{project_id}/clusters/{cluster_id}/dns

Table 5-146 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-147 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Domain name to be modified. Range N/A
type	Yes	String	Definition Domain name type. Range public private
ttl	Yes	Integer	Definition Caching duration of the SOA record set, in seconds. The default value is 300 , in seconds. Range 300 to 2147483647

Response Parameters

Status code: 200

The cluster domain name is modified successfully.

None

Example Requests

```
PUT https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/b5c45780-1006-49e3-b2d5-b3229975bbc7/dns
{
  "name" : "demo",
  "type" : "public",
  "ttl" : 300
}
```

Example Responses

None

Status Codes

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	Service unavailable.

5.7.3 Deleting a Cluster Domain Name

Function

This API is used to delete the domain name of a specified cluster.

Calling Method

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

URI

DELETE /v1.0/{project_id}/clusters/{cluster_id}/dns

Table 5-148 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A

Table 5-149 Query Parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Definition Domain name type. Currently, only public network domain names can be deleted. Constraints N/A Range public Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

The cluster domain name is deleted successfully.

None

Example Requests

```
DELETE https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/b5c45780-1006-49e3-b2d5-b3229975bbc7/dns?type=public
```

Example Responses

None

Status Codes

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	Service unavailable.

5.7.4 Querying the List of ELBs That Can Be Bound to a Cluster

Function

This API is used to query the list of ELBs that can be bound to a cluster.

Calling Method

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

URI

GET /v2/{project_id}/clusters/{cluster_id}/elbs

Table 5-150 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200**Table 5-151** Response body parameters

Parameter	Type	Description
elbs	Array of ClusterElbInfo objects	Definition ELB list. Range N/A

Table 5-152 ClusterElbInfo

Parameter	Type	Description
id	String	Definition ELB ID. Range N/A
cluster_id	String	Definition Cluster ID. Range It is a 36-digit UUID.
name	String	Definition ELB name. Range N/A
description	String	Definition ELB description. Range N/A
vip_address	String	Definition ELB address. Range N/A
vip_subnet_id	String	Definition Subnet ID. Range N/A
tenant_id	String	Definition Tenant ID. Range N/A
type	String	Definition ELB type. Range Internal: dedicated External: shared

Parameter	Type	Description
admin_state_up	Boolean	Definition ELB status. Range ACTIVE: in use. PENDING_CREATE: creating. ERROR: The policy has the same rule as another policy added to the same listener.
bandwidth	Integer	Definition Bandwidth information. Range A positive integer greater than or equal to 0
vpc_id	String	Definition VPC ID. Range N/A

Example Requests

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/clusters/194408fa-9d41-435c-a140-91edcf5fe519/elbs
```

Example Responses

Status code: 200

ELB list queried.

```
{
  "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 Codes

Status Code	Description
200	ELB list queried.

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	Service unavailable.

5.7.5 Binding an ELB to a Cluster

Function

This API is used to bind an ELB to a cluster.

Calling Method

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

URI

POST /v2/{project_id}/clusters/{cluster_id}/elbs/{elb_id}

Table 5-153 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A
elb_id	Yes	String	Definition ID of the ELB to be bound to the cluster. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-154 Response body parameters

Parameter	Type	Description
job_id	String	Definition Task ID. Range N/A

Example Requests

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/clusters/194408fa-9d41-435c-a140-91edcf5fe519/elbs/1e6e0b66-6223-4523-bfd9-033c88b4ce9f
```

Example Responses

Status code: 200

Request for binding an ELB to a cluster submitted.

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

Status Codes

Status Code	Description
200	Request for binding an ELB to a cluster submitted.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

5.7.6 Unbinding an ELB from a Cluster

Function

This API is used to unbind an ELB from a cluster.

Calling Method

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

URI

DELETE /v2/{project_id}/clusters/{cluster_id}/elbs/{elb_id}

Table 5-155 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A
elb_id	Yes	String	Definition ID of the ELB bound to the cluster. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-156 Response body parameters

Parameter	Type	Description
job_id	String	Definition Task ID. Range N/A

Example Requests

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/clusters/194408fa-9d41-435c-a140-91edcf5fe519/elbs/1e6e0b66-6223-4523-bfd9-033c88b4ce9f
```

Example Responses

Status code: 200

Request for unbinding an ELB from a cluster submitted.

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

Status Codes

Status Code	Description
200	Request for unbinding an ELB from a cluster submitted.
400	Request error.
401	Authentication failed.
403	You do not have required permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

5.7.7 Binding an EIP to a Cluster

Function

This API is used to bind an EIP to a cluster.

Calling Method

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

URI

POST /v2/{project_id}/clusters/{cluster_id}/eips/{eip_id}

Table 5-157 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A
eip_id	Yes	String	Definition ID of the EIP to be bound to the cluster. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

The EIP is bound to the cluster.

None

Example Requests

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/clusters/194408fa-9d41-435c-a140-91edcf5fe519/eips/ab60b4ac-10e3-4d83-bccd-9a6a1b0ba983
```

Example Responses

None

Status Codes

Status Code	Description
200	The EIP is 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	Service unavailable.

5.7.8 Unbinding an EIP from a Cluster

Function

This API is used to unbind an EIP from a cluster.

Calling Method

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

URI

DELETE /v2/{project_id}/clusters/{cluster_id}/eips/{eip_id}

Table 5-158 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A
eip_id	Yes	String	Definition EIP bound to the cluster. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

The EIP is unbound from the cluster.

None

Example Requests

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/clusters/194408fa-9d41-435c-a140-91edcf5fe519/eips/ab60b4ac-10e3-4d83-bccd-9a6a1b0ba983
```

Example Responses

None

Status Codes

Status Code	Description
200	The EIP is unbound from the cluster.
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 Details List

Function

This API is used to query the alarm details list.

Calling Method

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

URI

GET /v2/{project_id}/alarms

Table 5-159 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Table 5-160 Query Parameters

Parameter	Mandatory	Type	Description
time_zone	No	String	Definition Time zone. Constraints N/A Range N/A Default Value GMT+08:00
offset	No	String	Definition Page offset, which starts from 0 (page number minus 1). Constraints N/A Range Greater than or equal to 0 Default Value 0

Parameter	Mandatory	Type	Description
limit	No	String	Definition Size of a single page. Constraints N/A Range Greater than 0 Default Value 10

Request Parameters

None

Response Parameters

Status code: 200

Table 5-161 Response body parameters

Parameter	Type	Description
count	Integer	Definition Total number of alarm details. Range N/A
alarm_details	Array of AlarmDetailResponse objects	Definition Alarm list. Range N/A

Table 5-162 AlarmDetailResponse

Parameter	Type	Description
alarm_id	String	Definition Alarm definition ID. Range N/A

Parameter	Type	Description
alarm_name	String	Definition Alarm name. Range N/A
alarm_level	String	Definition Alarm severity. Range N/A
alarm_source	String	Definition Alarm source. Range N/A
alarm_message	String	Definition Alarm message. Range N/A
alarm_location	String	Definition Alarm location. Range N/A
resource_id	String	Definition Alarm source ID. Range N/A
resource_id_name	String	Definition Alarm source name. Range N/A
alarm_generate_date	String	Definition Alarm date. Range N/A
alarm_status	String	Definition Alarm status. Range N/A

Example Requests

https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/alarms?time_zone=GMT

Example Responses

Status code: 200

Alarm details list queried.

```
{
  "alarm_details": [ {
    "alarm_id": "DWS_01010",
    "alarm_name": "Cluster Status Fault",
    "alarm_level": "1",
    "alarm_source": "DWS",
    "alarm_message": "CloudService=DWS, resourceId: 5e76e8e2-d0cf-4b64-9d9a-aadbb04b54f7,
resourceIdName: evs-09, domain_name=, domain_id=0676610f3a0a4c2c80c50bea7ddf18c1,
res_domain_name=op_svc_dws_0676610f3a0a4c2c80c50bea7ddf18c1",
    "alarm_location": "cluster_id: 5e76e8e2-d0cf-4b64-9d9a-aadbb04b54f7,cluster_name: evs-09,cluster
type: dws,domain_name: ,domain_id: 0676610f3a0a4c2c80c50bea7ddf18c1",
    "resource_id": "5e76e8e2-d0cf-4b64-9d9a-aadbb04b54f7",
    "resource_id_name": "evs-09",
    "alarm_generate_date": "2022-10-27 08:11:29",
    "alarm_status": "0"
  } ],
  "count": 1
}
```

Status Codes

Status Code	Description
200	Alarm details list 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.

5.8.2 Querying the Alarm Statistics List

Function

This API is used to query alarm statistics.

Calling Method

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

URI

GET /v2/{project_id}/alarm-statistic

Table 5-163 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Table 5-164 Query Parameters

Parameter	Mandatory	Type	Description
time_zone	No	String	Definition Time zone. Constraints N/A Range N/A Default Value GMT+08:00

Request Parameters

None

Response Parameters

Status code: 200

Table 5-165 Response body parameters

Parameter	Type	Description
alarm_statistics	Array of AlarmStatisticResponse objects	Definition Alarm statistics list. Range N/A

Table 5-166 AlarmStatisticResponse

Parameter	Type	Description
date	String	Definition Date. Range N/A
urgent	String	Definition Urgent. Range N/A
important	String	Definition Important. Range N/A
minor	String	Definition Minor. Range N/A
prompt	String	Definition Prompt. Range N/A

Example Requests

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/alarm-statistic?time_zone=GMT
```

Example Responses

Status code: 200

Alarm statistics list queried.

```
{
  "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,
    "important" : 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 Codes

Status Code	Description
200	Alarm statistics list 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.

5.8.3 Querying the Alarm Subscription List

Function

This API is used to query subscribed alarms.

Calling Method

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

URI

GET /v2/{project_id}/alarm-subs

Table 5-167 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Table 5-168 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	String	Definition Page offset, which starts from 0 (page number minus 1). Constraints N/A Range Greater than or equal to 0 Default Value 0

Parameter	Mandatory	Type	Description
limit	No	String	Definition Size of a single page. Constraints N/A Range Greater than 0 Default Value 1000

Request Parameters

None

Response Parameters

Status code: 200

Table 5-169 Response body parameters

Parameter	Type	Description
count	Integer	Definition Total number of alarm subscriptions. Range N/A
alarm_subscriptions	Array of AlarmSubscriptionResponse objects	Definition Alarm subscription list. Range N/A

Table 5-170 AlarmSubscriptionResponse

Parameter	Type	Description
id	String	Definition Alarm subscription ID. Range N/A

Parameter	Type	Description
name	String	Definition Subscribed alarm name. Range N/A
enable	Integer	Definition Whether to enable subscription. Range N/A
alarm_level	String	Definition Alarm severity. Range N/A
project_id	String	Definition Project ID. Range N/A
name_space	String	Definition Service to which the alarm belongs. Range N/A
notification_target	String	Definition Message topic address. Range N/A
notification_target_name	String	Definition Message topic name. Range N/A
notification_target_type	String	Definition Message topic type. Range N/A
language	String	Definition Language. Range N/A

Parameter	Type	Description
time_zone	String	Definition Time zone. Range N/A

Example Requests

https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/alarm-sub

Example Responses

Status code: 200
Alarm subscription list queried.

```
{
  "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:cn-north-7:4cf650fd46704908aa071b4df2453e1e:CGS",
    "notification_target_name" : "CGS",
    "notification_target_type" : "SMN",
    "time_zone" : "GMT+08:00"
  } ]
}
```

Status Codes

Status Code	Description
200	Alarm subscription list 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.

5.8.4 Creating an Alarm Subscription

Function

This API is used to create an alarm subscription.

Calling Method

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

URI

POST /v2/{project_id}/alarm-subs

Table 5-171 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-172 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Subscribed alarm name. Range N/A
enable	No	Integer	Definition Whether to enable subscription. Range N/A

Parameter	Mandatory	Type	Description
alarm_level	No	String	Definition Alarm severity. Range N/A
notification_target	Yes	String	Definition Message topic address. Range N/A
notification_target_name	Yes	String	Definition Message topic name. Range N/A
notification_target_type	Yes	String	Definition Message topic type. Only SMN is supported. Range N/A
time_zone	Yes	String	Definition Time zone. Range N/A

Response Parameters

Status code: 200

Table 5-173 Response body parameters

Parameter	Type	Description
id	String	Definition Alarm subscription ID. Range N/A
name	String	Definition Subscribed alarm name. Range N/A

Parameter	Type	Description
enable	Integer	Definition Whether to enable subscription. Range N/A
alarm_level	String	Definition Alarm severity. Range N/A
project_id	String	Definition Project ID. Range N/A
name_space	String	Definition Service to which the alarm belongs. Range N/A
notification_target	String	Definition Message topic address. Range N/A
notification_target_name	String	Definition Message topic name. Range N/A
notification_target_type	String	Definition Message topic type. Range N/A
language	String	Definition Language. Range N/A
time_zone	String	Definition Time zone. Range N/A

Example Requests

Create an alarm subscription (Subscription name: **zrf-test-12**. Alarm m severity: **critical,major,minor**. SMN topic name: **dws-test-nodelete**. Topic address: **urn:smn:cn-north-7:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete**).

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/alarm-subs
```

```
{
  "alarm_level": "urgent,important,minor",
  "enable": 1,
  "name": "zrf-test-12",
  "notification_target": "urn:smn:cn-north-7:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
  "notification_target_name": "dws-test-nodelete",
  "notification_target_type": "SMN",
  "time_zone": "GMT+08:00"
}
```

Example Responses

Status code: 200

Alarm subscription created.

```
{
  "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:cn-north-7:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
  "notification_target_name": "dws-test-nodelete",
  "notification_target_type": "SMN",
  "time_zone": "GMT+08:00"
}
```

Status Codes

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

5.8.5 Modifying an Alarm Subscription

Function

This API is used to modify an alarm subscription.

Calling Method

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

URI

PUT /v2/{project_id}/alarm-sub/{alarm_sub_id}

Table 5-174 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
alarm_sub_id	Yes	String	Definition Alarm subscription ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-175 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Subscribed alarm name. Range N/A
enable	No	Integer	Definition Whether to enable subscription. Range N/A
alarm_level	No	String	Definition Alarm severity. Range N/A
notification_target	Yes	String	Definition Message topic address. Range N/A
notification_target_name	Yes	String	Definition Message topic name. Range N/A
notification_target_type	Yes	String	Definition Message topic type. Only SMN is supported. Range N/A

Response Parameters

Status code: 200

Table 5-176 Response body parameters

Parameter	Type	Description
id	String	Definition Alarm subscription ID. Range N/A
name	String	Definition Subscribed alarm name. Range N/A
enable	Integer	Definition Whether to enable subscription. Range N/A
alarm_level	String	Definition Alarm severity. Range N/A
project_id	String	Definition Project ID. Range N/A
name_space	String	Definition Service to which the alarm belongs. Range N/A
notification_target	String	Definition Message topic address. Range N/A
notification_target_name	String	Definition Message topic name. Range N/A

Parameter	Type	Description
notification_target_type	String	Definition Message topic type. Range N/A
language	String	Definition Language. Range N/A
time_zone	String	Definition Time zone. Range N/A

Example Requests

Modify the **zrf-test-13** alarm subscription. Change the alarm severity to **critical,major,minor**, the SMN topic name to **dws-test-nodelete**, and the address to **urn:smn:cn-north-7:4cf650fd46704908aa071b4df2453e1e: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:cn-north-7:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
  "notification_target_name": "dws-test-nodelete",
  "notification_target_type": "SMN"
}
```

Example Responses

Status code: 200

Alarm subscription modified.

```
{
  "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:cn-north-7:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
  "notification_target_name": "dws-test-nodelete",
  "notification_target_type": "SMN",
  "time_zone": "GMT+08:00"
}
```

Status Codes

Status Code	Description
200	Alarm subscription 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.

5.8.6 Deleting an Alarm Subscription

Function

This API is used to delete an alarm subscription.

Calling Method

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

URI

DELETE /v2/{project_id}/alarm-subs/{alarm_sub_id}

Table 5-177 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
alarm_sub_id	Yes	String	Definition Alarm subscription ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-178 Response body parameters

Parameter	Type	Description
id	String	Definition Alarm subscription ID. Range N/A
name	String	Definition Subscribed alarm name. Range N/A
enable	Integer	Definition Whether to enable subscription. Range N/A
alarm_level	String	Definition Alarm severity. Range N/A

Parameter	Type	Description
project_id	String	Definition Project ID. Range N/A
name_space	String	Definition Service to which the alarm belongs. Range N/A
notification_target	String	Definition Message topic address. Range N/A
notification_target_name	String	Definition Message topic name. Range N/A
notification_target_type	String	Definition Message topic type. Range N/A
language	String	Definition Language. Range N/A
time_zone	String	Definition Time zone. Range N/A

Example Requests

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/alarm-subs/273ce506-dad8-411c-92f9-be5004739b40
```

Example Responses

Status code: 200

Alarm subscription deleted.

```
{
  "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:cn-north-7:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
  "notification_target_name" : "dws-test-nodelete",
  "notification_target_type" : "SMN",
  "time_zone" : "GMT+08:00"
}
```

Status Codes

Status Code	Description
200	Alarm subscription 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.

5.9 Event Management

5.9.1 Querying Event List

Function

This API is used to query event list.

Calling Method

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

URI

GET /v2/{project_id}/events

Table 5-179 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Table 5-180 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	String	Definition Page offset, which starts from 0 (page number minus 1). Constraints N/A Range Greater than or equal to 0 Default Value 0
limit	No	String	Definition Size of a single page. Constraints N/A Range Greater than 0 Default Value 1000

Request Parameters

None

Response Parameters

Status code: 200

Table 5-181 Response body parameters

Parameter	Type	Description
events	Array of EventResponse objects	Definition Event details list. Range N/A
count	Integer	Definition Total number of events. Range N/A

Table 5-182 EventResponse

Parameter	Type	Description
category	String	Definition Event category. Range N/A
description	String	Definition Incident description. Range N/A
event_id	String	Definition Event ID. Range N/A
name	String	Definition Definition name of the event. Range N/A
display_name	String	Definition Display name of the event. Range N/A

Parameter	Type	Description
name_space	String	Definition Service to which the event belongs. Range N/A
severity	String	Definition Event severity. Range N/A
source_type	String	Definition Event source type. Range N/A
occur_time	Long	Definition Time. Range N/A
project_id	String	Definition Tenant credential ID. Range N/A
source_id	String	Definition Event source ID. Range N/A
source_name	String	Definition Event source name. Range N/A
status	Integer	Definition Status. Range N/A
subject	String	Definition Event subject. Range N/A

Parameter	Type	Description
context	String	Definition Event information. Range N/A

Example Requests

https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/events

Example Responses

Status code: 200
Event list of the cluster queried.

```
{
  "events": [ {
    "category": "management",
    "description": "Cluster %s deleted",
    "name": "deleteClusterSuccess",
    "severity": "normal",
    "status": 2,
    "subject": "DWS event notification",
    "context": "The cluster test-ty-820-1006 is deleted",
    "event_id": "f63ccf96-e3e0-474a-835a-fd1a779f68bd",
    "display_name": "Cluster deleted",
    "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 Codes

Status Code	Description
200	Event list of the cluster queried.
400	Request error.
401	Authentication failed.
403	No operation permissions.
404	No resources found.
500	Internal server error.
503	Service unavailable.

5.9.2 Querying Subscribed Events

Function

This API is used to query subscribed events.

Calling Method

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

URI

GET /v2/{project_id}/event-subs

Table 5-183 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Table 5-184 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	String	Definition Page offset, which starts from 0 (page number minus 1). Constraints N/A Range Greater than or equal to 0 Default Value 0

Parameter	Mandatory	Type	Description
limit	No	String	Definition Size of a single page. Constraints N/A Range Greater than 0 Default Value 1000

Request Parameters

None

Response Parameters

Status code: 200

Table 5-185 Response body parameters

Parameter	Type	Description
count	Integer	Definition Total number of event subscriptions. Range N/A
event_subscriptions	Array of EventSubscriptionResponse objects	Definition Event subscription list. Range N/A

Table 5-186 EventSubscriptionResponse

Parameter	Type	Description
id	String	Definition Subscription ID. Range N/A

Parameter	Type	Description
name	String	Definition Subscription name. Range N/A
source_type	String	Definition Event source type. Range N/A
source_id	String	Definition Event source ID. Range N/A
category	String	Definition Event category. Range N/A
severity	String	Definition Event severity. Range N/A
tag	String	Definition Event tag. Range N/A
enable	Integer	Definition Whether to enable subscription. Range 1: enabled; 0: disabled.
project_id	String	Definition Project ID. Range N/A
name_space	String	Definition Service. Range N/A

Parameter	Type	Description
notification_target	String	Definition Address for the message notification topic. Range N/A
notification_target_name	String	Definition Message notification topic. Range N/A
notification_target_type	String	Definition Message notification type. Range N/A
language	String	Definition Language. Range N/A
time_zone	String	Definition Time zone. Range N/A

Example Requests

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/event-sub
```

Example Responses

Status code: 200

Subscribed events queried.

```
{
  "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:cn-north-7:4cf650fd46704908aa071b4df2453e1e:CGS",
```

```
"notification_target_name" : "CGS",  
"notification_target_type" : "SMN",  
"time_zone" : "GMT+08:00"  
}],  
"count" : 1  
}
```

Status Codes

Status Code	Description
200	Subscribed events 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.

5.9.3 Creating an Event Subscription

Function

This API is used to create an event subscription.

Calling Method

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

URI

POST /v2/{project_id}/event-subs

Table 5-187 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-188 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Event subscription name. Range N/A
source_type	No	String	Definition Event source type. Range cluster, backup, or disaster-recovery
source_id	No	String	Definition Event source ID. Range N/A
category	No	String	Definition Event category. Range management, monitor, security, or system alarm.

Parameter	Mandatory	Type	Description
severity	No	String	Definition Event severity. Range The value can be normal or warning .
tag	No	String	Definition Event tag. Range N/A
enable	No	Integer	Definition Whether to enable subscription. Range 1: enabled; 0: disabled.
notification_target	Yes	String	Definition Message notification address. Range N/A
notification_target_name	Yes	String	Definition Message topic name. Range N/A
notification_target_type	Yes	String	Definition The message notification type can only be SMN. Range N/A
time_zone	No	String	Definition Time zone. Range N/A

Response Parameters

Status code: 200

Table 5-189 Response body parameters

Parameter	Type	Description
id	String	Definition Subscription ID. Range N/A
name	String	Definition Subscription name. Range N/A
source_type	String	Definition Event source type. Range N/A
source_id	String	Definition Event source ID. Range N/A
category	String	Definition Event category. Range N/A
severity	String	Definition Event severity. Range N/A
tag	String	Definition Event tag. Range N/A
enable	Integer	Definition Whether to enable subscription. Range 1: enabled; 0: disabled.

Parameter	Type	Description
project_id	String	Definition Project ID. Range N/A
name_space	String	Definition Service. Range N/A
notification_target	String	Definition Address for the message notification topic. Range N/A
notification_target_name	String	Definition Message notification topic. Range N/A
notification_target_type	String	Definition Message notification type. Range N/A
language	String	Definition Language. Range N/A
time_zone	String	Definition Time zone. Range N/A

Example Requests

Create a subscription (Subscription name **zrf-test-66**. Event severity: **normal,warning**. Message topic **dws-test-nodelete**. Address: **urn:smn:cn-north-7:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete**)

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/event-sub
```

```
{  
  "severity" : "normal,warning",  
}
```

```
"source_id" : "",
"source_type" : "",
"tag" : "",
"category" : "",
"enable" : 1,
"name" : "zrf-test-66",
"notification_target" : "urn:smn:cn-north-7:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
"notification_target_name" : "dws-test-nodelete",
"notification_target_type" : "SMN",
"time_zone" : "GMT+08:00"
}
```

Example Responses

Status code: 200

Event subscription created.

```
{
  "id" : "41eb162b-cd3b-4c66-88d0-0c2c17fdc2b",
  "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:cn-north-7:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
  "notification_target_name" : "dws-test-nodelete",
  "notification_target_type" : "SMN",
  "time_zone" : "GMT+08:00"
}
```

Status Codes

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

5.9.4 Modifying a Subscribed Event

Function

This API is used to modify a subscribed event.

Calling Method

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

URI

PUT /v2/{project_id}/event-sub/{event_sub_id}

Table 5-190 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
event_sub_id	Yes	String	Definition Event subscription ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-191 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Event subscription name. Range N/A

Parameter	Mandatory	Type	Description
source_type	No	String	Definition Event source type. Range cluster , backup , or disaster-recovery
source_id	No	String	Definition Event source ID. Range N/A
category	No	String	Definition Event category. Range management , monitor , security , or system alarm .
severity	No	String	Definition Event severity. Range The value can be normal or warning .
tag	No	String	Definition Event tag. Range N/A
enable	No	Integer	Definition Whether to enable subscription. Range 1 : enabled; 0 : disabled.
notification_target	Yes	String	Definition Message notification address. Range N/A
notification_target_name	Yes	String	Definition Message topic name. Range N/A

Parameter	Mandatory	Type	Description
notification_target_type	Yes	String	Definition Message notification type. The value can only be SMN . Range SMN

Response Parameters

Status code: 200

Table 5-192 Response body parameters

Parameter	Type	Description
id	String	Definition Subscription ID. Range N/A
name	String	Definition Subscription name. Range N/A
source_type	String	Definition Event source type. Range N/A
source_id	String	Definition Event source ID. Range N/A
category	String	Definition Event category. Range N/A
severity	String	Definition Event severity. Range N/A

Parameter	Type	Description
tag	String	Definition Event tag. Range N/A
enable	Integer	Definition Whether to enable subscription. Range 1: enabled; 0: disabled.
project_id	String	Definition Project ID. Range N/A
name_space	String	Definition Service. Range N/A
notification_target	String	Definition Address for the message notification topic. Range N/A
notification_target_name	String	Definition Message notification topic. Range N/A
notification_target_type	String	Definition Message notification type. Range N/A
language	String	Definition Language. Range N/A

Parameter	Type	Description
time_zone	String	Definition Time zone. Range N/A

Example Requests

Modify 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:cn-north-7:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete**).

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/event-subs/41eb162b-cd3b-4c66-88d0-0c2c17fdc2b
```

```
{
  "severity": "normal,warning",
  "source_id": "",
  "source_type": "",
  "tag": "",
  "category": "",
  "enable": 1,
  "name": "zrf-test-66",
  "notification_target": "urn:smn:cn-north-7:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
  "notification_target_name": "dws-test-nodelete",
  "notification_target_type": "SMN"
}
```

Example Responses

Status code: 200

Event subscription modified.

```
{
  "id": "41eb162b-cd3b-4c66-88d0-0c2c17fdc2b",
  "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:cn-north-7:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
  "notification_target_name": "dws-test-nodelete",
  "notification_target_type": "SMN",
  "time_zone": "GMT+08:00"
}
```

Status Codes

Status Code	Description
200	Event subscription 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.

5.9.5 Deleting a Subscribed Event

Function

This API is used to delete a subscribed event.

Calling Method

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

URI

DELETE /v2/{project_id}/event-sub/{event_sub_id}

Table 5-193 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
event_sub_id	Yes	String	Definition Event subscription ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-194 Response body parameters

Parameter	Type	Description
id	String	Definition Subscription ID. Range N/A
name	String	Definition Subscription name. Range N/A
source_type	String	Definition Event source type. Range N/A
source_id	String	Definition Event source ID. Range N/A

Parameter	Type	Description
category	String	Definition Event category. Range N/A
severity	String	Definition Event severity. Range N/A
tag	String	Definition Event tag. Range N/A
enable	Integer	Definition Whether to enable subscription. Range 1: enabled; 0: disabled.
project_id	String	Definition Project ID. Range N/A
name_space	String	Definition Service. Range N/A
notification_target	String	Definition Address for the message notification topic. Range N/A
notification_target_name	String	Definition Message notification topic. Range N/A

Parameter	Type	Description
notification_target_type	String	Definition Message notification type. Range N/A
language	String	Definition Language. Range N/A
time_zone	String	Definition Time zone. Range N/A

Example Requests

```
https://{Endpoint}/v2/4cf650fd46704908aa071b4df2453e1e/event-sub/41eb162b-cd3b-4c66-88d0-0c2c17fdcf2b
```

Example Responses

Status code: 200
Event subscription deleted.

```
{
  "id" : "41eb162b-cd3b-4c66-88d0-0c2c17fdcf2b",
  "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:cn-north-7:4cf650fd46704908aa071b4df2453e1e:dws-test-nodelete",
  "notification_target_name" : "dws-test-nodelete",
  "notification_target_type" : "SMN",
  "time_zone" : "GMT+08:00"
}
```

Status Codes

Status Code	Description
200	Event subscription 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	Service unavailable.

5.10 Quota Management

5.10.1 Querying Quotas

Function

This API is used to query DWS quotas of a tenant.

Calling Method

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

URI

GET /v1.0/{project_id}/quotas

Table 5-195 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-196 Response body parameters

Parameter	Type	Description
quotas	quotas object	Definition Quota list objects. Range N/A

Table 5-197 quotas

Parameter	Type	Description
resources	Array of QuotasResource objects	Definition Resource list objects. Range N/A

Table 5-198 QuotasResource

Parameter	Type	Description
type	String	Definition Project resource type. Range N/A
used	Integer	Definition Number of used resources. Range N/A
quota	Integer	Definition Project resource quota. Range N/A
unit	String	Definition Resource measurement unit. Range N/A

Example Requests

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

Example Responses

Status code: 200

Quotas queried.

```
{
  "quotas" : {
    "resources" : [ {
      "type" : "instances",
      "used" : "3",
      "quota" : "100",
      "unit" : null
    }, {
      "type" : "core",
      "used" : "12",
      "quota" : "100",
      "unit" : null
    }, {
      "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 Codes

Status Code	Description
200	Quotas 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.

5.11 Tag Management

5.11.1 Querying Project Tags

Function

This API is used to query project tag list.

Calling Method

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

URI

GET /v1.0/{project_id}/tags

Table 5-199 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-200 Response body parameters

Parameter	Type	Description
tags	Array of ProjectTag objects	Definition Tag list objects. Range N/A

Table 5-201 ProjectTag

Parameter	Type	Description
key	String	Definition Key. Range N/A
values	Array of strings	Definition Value. Range N/A

Example Requests

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

Example Responses

Status code: 200

Project tags queried.

```
{
  "tags": [ {
    "key": "key",
    "values": [ "value-1", "value-2" ]
  } ]
}
```

Status Codes

Status Code	Description
200	Project tags queried.
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.

5.11.2 Querying Cluster Tags

Function

This API is used to query tag information of a cluster.

Calling Method

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

URI

GET /v1.0/{project_id}/clusters/{cluster_id}/tags

Table 5-202 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-203 Response body parameters

Parameter	Type	Description
tags	Array of ResourceTag objects	Definition Tag list. Range N/A

Table 5-204 ResourceTag

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

Example Requests

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

Example Responses

Status code: 200

Tag information of the cluster queried.

```
{
  "tags": [ {
    "key": "key",
    "value": "value"
  } ]
}
```

Status Codes

Status Code	Description
200	Tag information of the cluster 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.

5.11.3 Adding Tags in Batches

Function

This API is used to batch add tags to a specified cluster.

Calling Method

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

URI

POST /v1.0/{project_id}/clusters/{cluster_id}/tags/batch-create

Table 5-205 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-206 Request body parameters

Parameter	Mandatory	Type	Description
tags	Yes	Array of BatchCreateResourceTag objects	Tag list.

Table 5-207 BatchCreateResourceTag

Parameter	Mandatory	Type	Description
key	Yes	String	Definition Tag key. Range N/A

Parameter	Mandatory	Type	Description
value	Yes	String	Definition Tag value. Range N/A

Response Parameters

Status code: 200

Tags are added in batches.

None

Example Requests

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" : [ {
    "key" : "key",
    "value" : "value"
  } ]
}
```

Example Responses

None

Status Codes

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	Service unavailable.

5.11.4 Delete Tags in Batches

Function

This API is used to delete tags from a specified cluster in batches.

Calling Method

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

URI

POST /v1.0/{project_id}/clusters/{cluster_id}/tags/batch-delete

Table 5-208 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-209 Request body parameters

Parameter	Mandatory	Type	Description
tags	Yes	Array of BatchDeleteResourceTag objects	Definition Tag list. Constraints N/A Range N/A Default Value N/A

Table 5-210 BatchDeleteResourceTag

Parameter	Mandatory	Type	Description
key	Yes	String	Definition Tag key. Range N/A
value	Yes	String	Definition Tag value. Range N/A

Response Parameters

Status code: 200

Tags are deleted in batches.

None

Example Requests

Delete 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-delete
```

```
{
  "tags" : [ {
    "key" : "key",
    "value" : "value"
  }
]
```

```
}]  
}
```

Example Responses

None

Status Codes

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

5.12 Parameter Configurations

5.12.1 Querying a Cluster Parameter Template

Function

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

Calling Method

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

URI

GET /v1.0/{project_id}/clusters/{cluster_id}/configurations

Table 5-211 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-212 Response body parameters

Parameter	Type	Description
configurations	Array of ClusterConfiguration objects	Definition Information about the parameter template associated with a cluster. Range N/A

Table 5-213 ClusterConfiguration

Parameter	Type	Description
id	String	Definition Parameter template ID. Range N/A
name	String	Definition Parameter template name. Range N/A
type	String	Definition Parameter template type. Range N/A
status	String	Definition Cluster parameter status. Range In-Sync: synchronized Applying: The parameter template is being applied to a cluster. Pending-Reboot: The parameter template will take effect after a cluster restart. Sync-Failure: The parameter template fails to be applied.
fail_reason	String	Definition Cause of the parameter application failure. Range N/A

Example Requests

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

Example Responses

Status code: 200
Cluster parameter template queried.

```
{  
  "configurations" : [ {
```

```
{
  "id" : "509be37f-5420-40fb-89c2-0c5c9b8c90f6",
  "name" : "defaultGUConfig",
  "type" : "GUConfig",
  "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" : "defaultOBConfig",
  "type" : "OBConfig",
  "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 Codes

Status Code	Description
200	Cluster parameter template 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.

5.12.2 Querying Cluster Parameter Configurations

Function

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

Calling Method

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

URI

GET /v1.0/{project_id}/clusters/{cluster_id}/configurations/{configuration_id}

Table 5-214 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A
configuration_id	Yes	String	Definition Parameter template ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-215 Response body parameters

Parameter	Type	Description
configurations	Array of ConfigurationParameter objects	Definition Parameter configurations used by the cluster. Range N/A

Table 5-216 ConfigurationParameter

Parameter	Type	Description
name	String	Definition Parameter name. Range N/A
values	Array of ConfigurationParameterUnit objects	Definition Parameter value. Range N/A
unit	String	Definition Parameter unit. Range N/A
type	String	Definition Parameter type. Range boolean, string, integer, float, or list.
readonly	Boolean	Definition Whether the cluster is read-only. Range N/A
value_range	String	Definition Parameter value range. Range N/A

Parameter	Type	Description
restart_required	Boolean	Definition Whether the instance needs to be restarted. Range N/A
description	String	Definition Parameter description. Range N/A

Table 5-217 ConfigurationParameterUnit

Parameter	Type	Description
type	String	Definition Parameter type. The value can be cn or dn . Range cn or dn .
value	String	Definition Parameter value. Range N/A
default_value	String	Definition Default parameter value. Range N/A

Example Requests

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

Example Responses

Status code: 200

Parameter configurations of the cluster queried.

```
{  
  "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 Codes

Status Code	Description
200	Parameter configurations of the cluster 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.

5.12.3 Modifying the Parameter Settings of a Cluster

Function

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

Calling Method

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

URI

PUT /v2/{project_id}/clusters/{cluster_id}/configurations/{configuration_id}

Table 5-218 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints N/A Range N/A Default Value N/A
configuration_id	Yes	String	Definition Parameter template ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 5-219 Request body parameters

Parameter	Mandatory	Type	Description
configurations	Yes	Array of ConfigurationParameterValue objects	Definition Cluster parameter configuration list. Range N/A

Table 5-220 ConfigurationParameterValue

Parameter	Mandatory	Type	Description
type	Yes	String	Definition Parameter type. Range cn or dn .
name	Yes	String	Definition Parameter name. Range N/A
value	Yes	String	Definition Parameter value. Range N/A

Response Parameters

Status code: 200

Cluster parameter settings modified.

None

Example Requests

Change the CN and DN types of the **enable_constraint_optimization** parameter in a cluster 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 Responses

None

Status Codes

Status Code	Description
200	Custer parameter settings 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.

5.13 Audit Logs

5.13.1 Querying Log Records

Function

This API is used to query audit logs.

Calling Method

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

URI

GET /v1.0/{project_id}/clusters/{cluster_id}/audit-log-records

Table 5-221 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID. To obtain the value, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
cluster_id	Yes	String	Definition Cluster ID. For details about how to obtain the value, see Obtaining the Cluster ID . Constraints The value must be a valid DWS cluster ID. Range It is a 36-digit UUID. Default Value N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-222 Response body parameters

Parameter	Type	Description
records	Array of AuditDumpRecord objects	Definition Audit log list. Range N/A

Parameter	Type	Description
cluster_id	String	Definition Cluster ID. Range It is a 36-digit UUID.
count	Integer	Definition Total number. Range N/A

Table 5-223 AuditDumpRecord

Parameter	Type	Description
cluster_id	String	Definition Cluster ID. Range It is a 36-digit UUID.
executor_time	String	Definition Execution time. Range N/A
begin_time	String	Definition Start time. Range N/A
end_time	String	Definition End time. Range N/A
bucket_name	String	Definition Bucket name. Range N/A
location_prefix	String	Definition Prefix. Range N/A

Parameter	Type	Description
result	String	Definition Results. Range N/A
failed_reason	String	Definition Failure cause. Range N/A

Example Requests

```
GET https://{Endpoint}/v1.0/89cd04f168b84af6be287f71730fdb4b/clusters/e59d6b86-9072-46eb-a996-13f8b44994c1/audit-log-records
```

Example Responses

Status code: 200

Query succeeded.

```
{
  "records" : [ {
    "result" : "RUNNING",
    "cluster_id" : "a07cb2f7-b17e-4d95-923b-a33d0c884d37",
    "executor_time" : "2022-10-31T09:11:31",
    "begin_time" : "2022-10-31T09:09:55",
    "end_time" : "2022-10-31T09:19:55",
    "bucket_name" : "testbucket",
    "location_prefix" : "test"
  } ],
  "count" : 1,
  "cluster_id" : "a07cb2f7-b17e-4d95-923b-a33d0c884d37"
}
```

Status Codes

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

6 Application Cases

6.1 Using Postman to Call the API for Creating a Cluster

Scenario

Use Postman to create a DWS cluster. This API is an asynchronous API. It takes 10 to 15 minutes to create a cluster. For details, see [Calling APIs](#).

Preparations

- You have registered a Huawei Cloud account and enabled Huawei Cloud services.
- You have obtained the endpoint addresses of DWS in the region you choose. For details, see [Regions and Endpoints](#).
- You have obtained the username, password, account name, and project ID of your Huawei Cloud account. In the upper right corner of the Huawei Cloud management console, choose **My Credentials > API Credential**. The username, account name, user password, and region project ID is displayed in the **Projects** area. For details about how to obtain the project ID, see [Obtaining a Project ID](#).
- You have created a VPC and obtained the VPC and subnet IDs. For details, see [Virtual Private Cloud \(VPC\)](#).

Procedure

Step 1 Configure the environment.

NOTE

Download Postman (7.24.0 is recommended) and call the snapshot creation service.

Step 2 Obtain the token for authentication.

1. Create a POST request on Postman, select the **Body** tab, and enter the username, password, account name, and project ID.

 NOTE

The region where the Huawei Cloud service for obtaining the token is located must be the same as the region where the called service is located. Otherwise, the calling fails.

2. Click **Send** in the upper right corner to send POST `https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens`. Obtain the value of **Headers->X-Subject-Token** in the command output. (The validity period of the token is 24 hours.)

Step 3 Call the API for creating a cluster.

1. Create a POST request on Postman, select **Headers**, add the corresponding KEY and VALUE, and copy the token value to **X-Auth-Token**.
2. Call the API. This service provides two APIs for creating a cluster. The region of the request URL must be the same as that of the invoked service. **project_id** indicates the project ID (mandatory). For details about how to obtain the project ID, see [Preparations](#).

- v1 API:
POST `https://{Endpoint}/v1.0/{project_id}/clusters`
- v2 API:
POST `https://{Endpoint}/v2/{project_id}/clusters`

 NOTE

The v2 API is recommended.

3. Click **Body** and add the request parameter values to the request. Parameters vary by services. For details, see the [API Description](#).

```
{
  "cluster": {
    "flavor": "dwsx2.rt.xlarge.m6",
    "num_node": 3,
    "subnet_id": "050e154d-9954-4929-b6d3-12af7c9213ac",
    "security_group_id": "",
    "vpc_id": "050e154d-9954-4929-b6d3-12af7c9213ac",
    "db_port": 8000,
    "datastore_version": "8.1.3.320",
    "availability_zones": [
      "cn-north-4c"
    ],
    "name": "dws1",
    "num_cn": 3,
    "db_name": "dbadmin",
    "db_password": "Passw0rd!",
    "public_ip": {
      "public_bind_type": "auto_assign",
      "eip_id": ""
    },
    "volume": {
      "volume": "SSD",
      "capacity": "100"
    }
  }
}
```

4. Click **Send** in the upper right corner to send the request. For example, enter "POST `https://dws.ap-southeast-1`" to view the creation result.

```
{
  "cluster" : {
    "id" : "7d85f602-a948-4a30-afd4-e84f47471c15"
  }
}
```

----End

FAQs

- **DWS.5207 Invalid CN instance quantity.**
In the latest version, the number of CNs in the cluster ranges from 2 to the number of cluster nodes. The maximum value is **20** and the default value is **3**.
- **DWS.5240 The selected flavor does not exist.**
If you use the v2 API, enter the flavor name but not the flavor ID.
- **ECS.0319 Failed to create a cluster, and the error message "The capacity of flavor am7.xlarge.8 is not sufficient." is displayed.**
The underlying resources for the selected flavor are insufficient. Check the flavor field and select an available flavor.

6.2 Using Postman to Call the API for Creating a Snapshot

Scenarios

Use Postman to call the API for creating a snapshot. For details, see [Calling APIs](#).

Involved APIs

When this API is called, authentication is required. The following APIs are involved:

- **Authentication:** This API is used to authenticate identity to obtain the permission to operate APIs.
- **Creating a Snapshot:** This API is used to create a snapshot for a cluster.

Procedure

Step 1 Configure the environment.

NOTE

Download Postman (7.24.0 is recommended) and call the snapshot creation service.

Step 2 Call services.

1. Obtain the token for authentication.

Create a POST request on Postman, select the **Body** tab, and enter the username, password, account name, and project ID. For details about how to obtain the project ID, see [Obtaining a Project ID](#).

NOTE

The region where the cloud service for obtaining the token is located must be the same as the region where the called service is located. Otherwise, the calling fails.

2. Click **Send** in the upper right corner to send **POST https://{endpoint}/v3/auth/tokens**. Obtain the token value in the returned result. The token validity period is 24 hours.
3. Call the API for creating a snapshot.

- Create a POST request on Postman, select **Headers**, add the corresponding KEY and VALUE, and copy the token value to **X-Auth-Token**. The region in the request URL must be the same as that of the invoked service. You can obtain the region from [Regions and Endpoints](#).
- Click **Body** and add the request parameter values to the request. Parameters vary by services. For details, see the [API Description](#).
- Click **Send** in the upper right corner to send **POST https://{endpoint}** and view the creation result.

```
{
  "snapshot": {
    "id": "809bcf6e-4022-496d-9320-bbc700695692"
  }
}
```

----End

7 Permissions and Supported Actions

This section describes fine-grained permissions management for your DWS service using IAM. You can skip this section if your account already satisfies your needs.

By default, new IAM users do not have permissions assigned. You need to add the users to one or more groups, and attach permissions policies or roles to these groups. Users inherit permissions from the groups to which they are added and can perform specified operations on cloud services based on the permissions. Users are authorized by creating custom policies. For detailed operations, see [Creating a DWS Custom Policy](#).

You can grant users permissions by using [roles](#) and [policies](#). Roles are provided by IAM to define service-based permissions depending on user's job responsibilities. Policies define API-based permissions for operations on specific resources under certain conditions, allowing for more fine-grained, secure access control of cloud resources.

NOTE

Policy-based authorization is useful if you want to allow or deny the access to an API.

An account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions. The permissions required for calling an API are determined by the actions supported by the API. Only users who have been granted permissions allowing the actions can call the API successfully. For example, if an IAM user wants to query the DWS cluster list using an API, the user must have been granted permissions that allow the **dws:openAPICluster:list** action.

Supported Actions

DWS provides system-defined policies that can be directly used in IAM. You can also create custom policies and use them to supplement system-defined policies, implementing more refined access control. Actions supported by policies are specific to APIs. The following are common concepts related to policies:

- **Permissions:** Allow or deny operations on specified resources under specific conditions.
- **APIs:** RESTful APIs that can be called in a custom policy.

- **Actions:** Added to a custom policy to control permissions for specific operations.
- **IAM or enterprise projects:** Type of projects for which an action will take effect. Policies that contain actions supporting both IAM and enterprise projects can be assigned to user groups and take effect in both IAM and Enterprise Management. Policies that only contain actions supporting IAM projects can be assigned to user groups and only take effect for IAM. Such policies will not take effect if they are assigned to user groups in Enterprise Management. For details about the differences between IAM and enterprise management, see [What Are the Differences Between IAM and Enterprise Management?](#)

 NOTE

The check mark (√) indicates that an action takes effect. The cross mark (x) indicates that an action does not take effect.

DWS supports the following actions that can be defined in custom policies:

- [Managing Clusters](#)
- [Managing Snapshots](#)

Managing Clusters

Permissions	APIs	Actions	IAM Project	Enterprise Project
Creating clusters	POST /v1.0/{project_id}/clusters	dws:openAPICluster:create	√	x
Querying the cluster list	GET /v1.0/{project_id}/clusters	dws:openAPICluster:list	√	x
Querying cluster details	GET /v1.0/{project_id}/clusters/{cluster_id}	dws:openAPICluster:getDetail	√	x
Querying the node type	GET /v2/{project_id}/node-types	dws:openAPIFlavors:get	√	x
Deleting clusters	DELETE /v1.0/{project_id}/clusters/{cluster_id}	dws:openAPICluster:delete	√	x
Restarting clusters	POST /v1.0/{project_id}/clusters/{cluster_id}/restart	dws:openAPICluster:restart	√	x

Permissions	APIs	Actions	IAM Project	Enterprise Project
Scales out a cluster.	POST /v1.0/{project_id}/clusters/{cluster_id}/resize	dws:cluster:scaleOutOrOpenAPIResize	√	x
Resetting the cluster's administrator password	POST /v1.0/{project_id}/clusters/{cluster_id}/reset-password	dws:openAPICluster:resetPassword	√	x
Starting a cluster	POST /v1/{project_id}/clusters/{cluster_id}/start	dws:cluster:startCluster	√	x
Stopping a cluster	POST /v1/{project_id}/clusters/{cluster_id}/stop	dws:cluster:stopCluster	√	x

Managing Snapshots

Permissions	APIs	Actions	IAM Project	Enterprise Project
Creating snapshots	POST /v1.0/{project_id}/snapshots	dws:openAPISnapshot:create	√	x
Querying the snapshot list	GET /v1.0/{project_id}/snapshots	dws:openAPISnapshot:list	√	x
Querying snapshot details	GET /v1.0/{project_id}/snapshots/{snapshot_id}	dws:openAPISnapshot:detail	√	x
Deleting snapshots	DELETE /v1.0/{project_id}/snapshots/{snapshot_id}	dws:openAPISnapshot:delete	√	x

Permissions	APIs	Actions	IAM Project	Enterprise Project
Restoring clusters	POST /v1.0/{project_id}/snapshots/{snapshot_id}/actions	dws:openAPISnapshot:restore	√	x

8 Appendix

8.1 Status Code

Table 8-1 describes the status code.

Table 8-1 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 exists, 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	UnprocessableEntity	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 Timeout parameter is specified in the request.
505	HTTP Version not supported	The server does not support the HTTP protocol version used in the request.

8.2 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 and technical support and provide the error code so that we can help you solve the problem as soon as possible.

Table 8-2 Error code

Status Code	Error Code	Error Information	Description	Solution
400	DWS.5001	Invalid instance name.	Invalid instance name.	Enter a valid instance name according to the instance name description and try again later.
400	DWS.5002	Invalid database type.	Invalid database type.	Enter a valid database type according to the database parameter description and try again later.
400	DWS.5003	Invalid database version.	Invalid database version.	Enter a valid database version according to the database parameter description and try again later.
400	DWS.5004	Empty datastore field.	Empty datastore field.	Enter the correct datastore according to the actual situation and try again later.
400	DWS.5005	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.5006	Invalid specifications.	Invalid specifications.	Select the correct flavor and try again later.
400	DWS.5010	Invalid region.	Invalid region.	Select a valid region and try again.
400	DWS.5011	Invalid AZ.	Invalid AZ.	Select a valid AZ and try again.
400	DWS.5012	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.5013	Invalid password of database root .	Invalid password of database root .	Enter a valid password according to the password description.
400	DWS.5014	Invalid VPC ID.	Invalid VPC ID.	Enter a valid ID according to the description of parameter vpc_id .

Status Code	Error Code	Error Information	Description	Solution
400	DWS.5015	Invalid subnet ID.	Invalid subnet ID.	Enter a valid ID according to the description of parameter subnet_id .
400	DWS.5016	Invalid security group ID.	Invalid security group ID.	Enter a valid ID according to the description of the security group ID parameter.
400	DWS.5017	Invalid retention period of automated backups.	Invalid retention period of automated backups.	Enter a proper retention period and try again later.
400	DWS.5018	Invalid automated backup period.	Invalid automated backup period.	Enter a proper automated backup period and try again later.
404	DWS.5021	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.5022	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.5023	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.5027	Invalid AZ.	Invalid AZ.	Enter a correct AZ and try again later.
400	DWS.5033	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.5034	Flavors do not match.	Flavors do not match.	Select a correct flavor and try again.

Status Code	Error Code	Error Information	Description	Solution
403	DWS.5036	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.5037	The parameter does not exist.	The parameter does not exist.	Enter the correct parameter group and try again.
400	DWS.5038	The parameter value is out of range.	The parameter value is out of range.	Enter a valid parameter and try again.
400	DWS.5039	Duplicate parameters.	Duplicate parameters.	Enter a valid parameter and try again.
400	DWS.5045	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.5046	nics is left black.	nics is left black.	Enter a correct nics and try again.
400	DWS.5047	Invalid instance quantity.	Invalid instance quantity.	Enter a correct instance quantity.
400	DWS.5048	Invalid extended parameter.	Invalid extended parameter.	Enter a valid extended parameter according to the corresponding description of the extended parameter.
409	DWS.5050	The cluster name already exists.	The cluster name already exists.	Enter a correct cluster name and try again later.
400	DWS.5051	Invalid IP address.	Invalid IP address.	Enter a valid IP address and try again.
400	DWS.5052	Invalid value of the AZ.	Invalid value of the AZ.	Enter a correct AZ and try again later.
400	DWS.5053	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.

Status Code	Error Code	Error Information	Description	Solution
400	DWS.5054	The parameter group ID is invalid.	The parameter group ID is invalid.	Enter a correct parameter group ID and try again later.
400	DWS.5056	Invalid string length.	Invalid string length.	Enter a valid string and try again.
400	DWS.5057	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.5059	Database username contains invalid characters.	Database username contains invalid characters.	Enter a valid database username according to the database username description.
400	DWS.5060	Integer type is of wrong range.	Integer type is of wrong range.	Enter a valid Integer type and try again later.
400	DWS.5061	The volume type is illegal.	The volume type is illegal.	Enter a valid volume type and try again later.
400	DWS.5062	The volume tag is illegal.	The volume tag is illegal.	Enter a valid volume tag and try again later.
400	DWS.5063	Invalid Specific field.	Invalid Specific field.	Enter a correct Specific value and try again later.
400	DWS.5064	Invalid UUID.	Invalid UUID.	Enter a valid UUID and try again.
400	DWS.5065	Invalid format.	Invalid format.	Use a valid format and try again.
400	DWS.5070	Flavor ref is invalid in xml.	Flavor ref is invalid in xml.	Enter correct flavor ref and try again later.
400	DWS.5071	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.5078	Invalid disk size.	Invalid disk size.	Enter a valid disk size and try again later.
400	DWS.5079	The backup period is not permitted.	The backup period is not permitted.	Enter a proper backup period and try again later.
400	DWS.5080	The backup retention period is not permitted.	The backup retention period is not permitted.	Enter a proper backup retention duration and try again later.

Status Code	Error Code	Error Information	Description	Solution
400	DWS.5081	The instance disk type is not allowed.	The instance disk type is not allowed.	Select a valid instance type and try again.
400	DWS.5082	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.5083	Invalid affinity in the XML configuration.	Invalid affinity in the XML configuration.	Enter a valid affinity value and try again.
400	DWS.5084	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.5086	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.5087	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.5089	Unsupported type.	Unsupported type.	Enter a supported type and try again.
400	DWS.5091	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.5093	Flavor information is invalid.	Flavor information is invalid.	Enter valid flavor information and try again later.
400	DWS.5095	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.

Status Code	Error Code	Error Information	Description	Solution
400	DWS.5096	Invalid disk quantity.	Invalid disk quantity.	Enter valid disk quantity and try again later.
400	DWS.5097	Region or AZ does not exist.	Region or AZ does not exist.	Enter a correct region or AZ and try again later.
400	DWS.5098	Invalid EIP binding type.	Invalid EIP binding type.	Enter a correct EIP binding type and try again later.
400	DWS.5104	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.5106	Invalid instance type.	Invalid instance type.	Enter a valid instance type and try again later.
400	DWS.5107	Invalid cluster mode.	Invalid cluster mode.	Enter a valid disk mode and try again later.
400	DWS.5111	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.5130	Invalid agency name.	Invalid agency name.	Enter a valid agency name and then try again.
400	DWS.5133	Invalid EIP ID.	Invalid EIP ID.	Enter a valid EIP ID and try again.
400	DWS.5135	The EIP does not exist.	The EIP does not exist.	Enter a valid EIP and try again.
400	DWS.5144	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.5145	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.

Status Code	Error Code	Error Information	Description	Solution
400	DWS.5 146	The ECS group parameter is missing.	The ECS group parameters are 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_fields parameter in the data file. The supported values are true/on and false/off .	Invalid fill_missing_fields 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.

Status Code	Error Code	Error Information	Description	Solution
400	DWS.5169	Invalid ignore_extra_data parameter in the data file. The supported values are true/on and false/off .	Invalid ignore_extra_data 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.5170	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.5171	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.5172	The database does not exist.	The database does not exist.	Enter the correct database name and try again later.
400	DWS.5173	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.5174	The database table does not exist.	The database table does not exist.	Enter the correct database table and try again later.
400	DWS.5175	The database username cannot be blank.	The database username cannot be blank.	Enter the username and try again later.
400	DWS.5176	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.

Status Code	Error Code	Error Information	Description	Solution
400	DWS.5177	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 loaded is located cannot be blank.	Enter the database name and try again later.
400	DWS.5178	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.5179	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.5180	Invalid path for OBS file loading.	Invalid path for OBS file loading.	Enter a correct OBS loading path and try again later.
400	DWS.5181	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.5182	The current job is stopped.	The current job is stopped.	Select a loading job and cancel it.
400	DWS.5183	The current job has been canceled.	The current job has been canceled.	Select a loading job and cancel it.
400	DWS.5184	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.

Status Code	Error Code	Error Information	Description	Solution
400	DWS.5185	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.5186	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.5187	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.5189	Failed to obtain the AK/SK.	Failed to obtain the AK/SK.	Contact the or try again later.
400	DWS.5191	The tag does not exist.	The tag does not exist.	Enter the correct tag and try again later.
400	DWS.5194	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.5197	The tag is invalid.	The tag is invalid.	Enter the correct tag and try again later.
400	DWS.5198	Invalid username.	Invalid username.	Enter a correct username and try again.
400	DWS.5199	Invalid password.	Invalid password.	Enter a valid password and try again.
400	DWS.5200	The flavor has been sold out. Switch to another AZ or region.	The flavor has been sold out. Switch to another AZ or region.	Create a cluster of another flavor or switch to another AZ or region.
400	DWS.5202	The subnet ID cannot be left blank.	The subnet ID cannot be left blank.	Enter a correct subnet ID and try again later.

Status Code	Error Code	Error Information	Description	Solution
400	DWS.5203	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.5206	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.

8.3 Creating a VPC

Background

Before creating a cluster, you need to create a VPC to provide a secure and isolated network environment for using DWS.

If you have already created a VPC, you do not need to create it again.

 NOTE

Procedure

- Step 1** [Log in to the VPC 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

8.4 Obtaining Project ID

Obtaining the Project ID by Calling the API

The API used to obtain a Project ID is **GET https://{Endpoint}/v3/projects/**. **{Endpoint}** indicates the IAM endpoint and can be obtained from . For details about API authentication, see [Authentication](#).

The following is an example response. **id** in **projects** indicates the Project ID.

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

Obtaining the Project 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.

8.5 Obtaining ID

1. Log in to the management console.
2. Click the username and select from the drop-down list.

8.6 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 for [creating a cluster](#).

The API used to obtain a cluster ID is **GET https://{Endpoint}/v1.0/{project_id}/clusters**. *Endpoint* indicates the IAM endpoint, which can be obtained from the . For details about Project ID, see [Obtaining Project ID](#). For details about interface authentication, see [Authentication](#).

The following is an example response. The value of **id** under the specified clusters is the cluster ID.

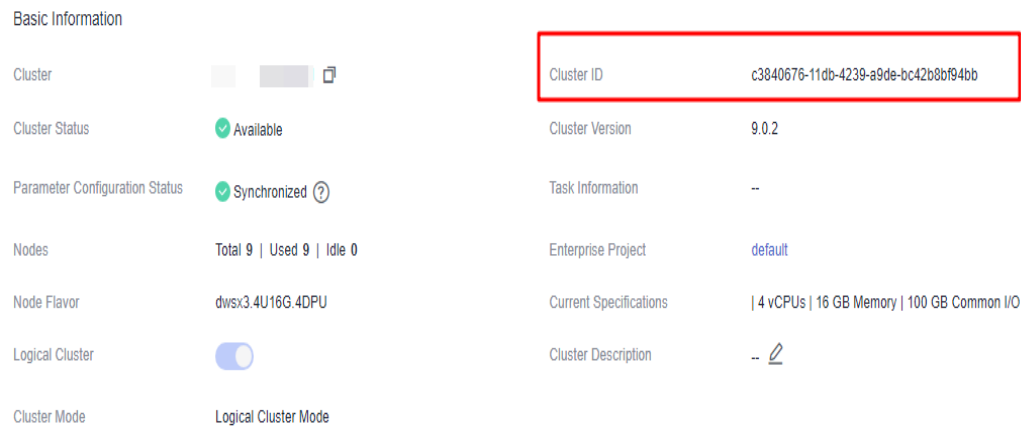
```
{
  "clusters": [ {
    "id": "7d85f602-a948-4a30-afd4-e84f47471c15",
    "name": "dws-1",
    "status": "AVAILABLE",
    "version": "1.2.0",
    "updated": "2016-02-10T14:28:14Z",
    "created": "2016-02-10T14:26:14Z",
    "port": 8000,
    "endpoints": [ {
      "connect_info": "dws-1.cn-north-4.myhuaweicloud.com",
      "jdbc_url": "jdbc:postgresql://dws-1.cn-north-4.myhuaweicloud.com/<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": "cn-north-4b",
    "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": "dws-1.cn-north-4.myhuaweicloud.com",
      "jdbc_url": "jdbc:postgresql://dws-1.cn-north-4.myhuaweicloud.com/<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 DWS Console

Step 1 [Log in to the 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.

Figure 8-1 Viewing the cluster ID



----End