

# Distributed Database Middleware

## API Reference

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# 1 Before You Start

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## 1.1 Overview

Welcome to Distributed Database Middleware (DDM). This document describes functions, syntax, parameters, and examples of DDM.

If you plan to access DDM using an API, ensure that you are familiar with DDM concepts.

This document describes how to use application programming interfaces (APIs) to perform creating, modifying, querying, and updating operations.

### NOTE

- This document will be updated when APIs of new functions are added, for example, adding response parameters.
- To reduce impacts caused by API changes, DDM is backward compatible with existing APIs. When using DDM, you should accept and ignore unused parameters and parameter values in JSON responses.

## 1.2 API Calling

DDM supports Representational State Transfer (REST) APIs, allowing you to call APIs using HTTPS.

### NOTE

A request throttling policy is used to limit the number of times that an API can be called within a specific time period. If there are too many API requests within a specific time period, the requests may fail.

Standard request throttling policy: 60 calls per minute for a single user and 8,000 calls per minute for an API.

## 1.3 Endpoints

An endpoint is the **request address** for calling an API.

Endpoints vary depending on services and regions. For the endpoints of all services, see [Regions and Endpoints](#).

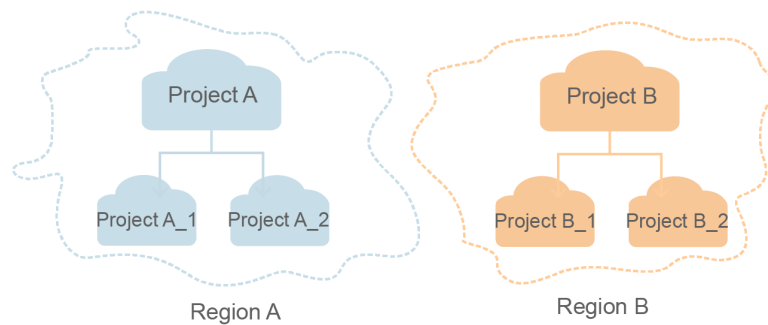
## 1.4 Constraints

- The number of DDM instances that you can create is determined by your quota.
- For more constraints, see API description.

## 1.5 Concepts

- Account  
An account is created after your registration. The account has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions. The account is a payment entity and should not be used directly to perform routine management. For security purposes, create users and grant them permissions for routine management.
- IAM user  
An IAM user is created using an account to use cloud services. Each IAM user has its own identity credentials (password and access keys).  
An IAM user can view the account ID and user ID on the **API Credentials** page of the management console. The account name, username, and password will be required for API authentication.
- 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 comprises one or more physical data centers equipped with independent cooling, fire extinguishing, moisture-proof, and electricity facilities. Computing, network, storage, and other resources in an AZ are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to allow users to build cross-AZ high-availability systems.
- Project  
A project corresponds to a region. Projects group and isolate resources (including compute, storage, and network resources) across physical regions. Users can be granted permissions in a default project to access all resources in the region associated with the project. For more refined access control, create subprojects under a project and buy 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 manage resources across regions. Resources in enterprise projects are logically isolated from each other. An enterprise project can contain resources of multiple regions, and resources can be added to or removed from the enterprise project.

For more information about enterprise projects and how to obtain enterprise project IDs, see [Enterprise Management User Guide](#).

# 2 API Overview

DDM provides REST APIs. With DDM APIs, you can use all DDM functions, including creating DDM instances and schemas.

**Table 2-1** API description

Type	API	Description
APIs for managing DDM instances	Buying a DDM instance	This API is used to buy a DDM instance. DDM instances created using this API are billed in pay-per-use mode. DDM runs in VPCs. Before you create a DDM instance, ensure that a VPC is available and a subnet and security group have been configured.
	Querying DDM instances	This API is used to query DDM instances.
	Querying details of a DDM instance	This API is used to query details about a DDM instance.
	Modifying the name of a DDM instance	This API is used to modify the name of an existing DDM instance.
	Modifying the security group of a DDM instance	This API is used to modify the security group of a DDM instance.
	Deleting a DDM instance	This API is used to delete a DDM instance to release all its resources.
	Restarting a DDM instance	This API is used to restart a DDM instance.
	Reloading table data	This API is used to reload table data of the destination DDM instance for cross-region DR.

Type	API	Description
	Scaling out a DDM instance	This API is used to add nodes to a specified DDM instance.
	Scaling in a DDM instance	This API is used to remove nodes from a specified DDM instance.
	Modifying the read policy of the associated DB instance	This API is used to modify the read policy of the DB instance associated with a DDM instance.
	Synchronizing data node information	This API is used to synchronize configuration information of all data nodes that are associated with the current DDM instance.
	Querying nodes of a DDM instance	This API is used to query nodes of a DDM instance.
	Querying details of a DDM instance node	This API is used to query details of a DDM instance node.
	Querying parameters of a specified DDM instance	This API is used to query parameters of a specified DDM instance.
	Modifying parameters of a DDM instance	This API is used to modify parameters of a DDM instance.
	Querying DDM engine information	This API is used to query information about the DDM engine.
	Querying DDM node classes available in an AZ	This API is used to query DDM node classes available in an AZ.
	Changing the node class of a DDM instance	This API is used to change the node class of a DDM instance.
	Obtaining the instance group information	This API is used to obtain DDM instance group information.
	Querying parameters of a specified DDM instance	This API is used to query parameters of a specified DDM instance.

Type	API	Description
	Scaling out a DDM instance (a V3 API)	This API is used to scale out a DDM instance.
	Deleting an instance (a V3 API)	This API is used to delete an instance.
	Enabling or disabling SSL (a V3 API)	This API is used to enable or disable SSL.
	Changing an instance port	This API is used to change an instance port.
	Restarting an instance (a V3 API)	This API is used to restart an instance.
	Restarting a node	This API is used to restart a node.
	Binding an EIP	This API is used to bind an EIP.
	Unbinding an EIP	This API is used to unbind an EIP.
	Changing the ELB load balancer IP address of an instance	This API is used to change the ELB load balancer IP address of an instance.
	Deleting instance nodes	This API is used to delete nodes from an instance.
	Deleting multiple nodes from an instance at a time (a V3 API)	This API is used to delete nodes from an instance at a time.
	Querying details of an instance node (a V3 API)	This API is used to query details of an instance node.
	Buying an instance (a V3 API)	This API is used to buy an instance.

Type	API	Description
	Obtaining information about the EIP bound to an instance (a V3 API)	This API is used to obtain information about the EIP bound to an instance.
	Synchronizing data node information (a V3 API)	This API is used to synchronize data node information.
APIs for managing schemas	Creating a schema	This API is used to create a schema. Before creating a schema, ensure that there is an RDS instance available and that the instance is running properly and not associated with any DDM instance.
	Querying schemas of a DDM instance	This API is used to query schemas of a DDM instance.
	Querying details of a schema	This API is used to query details about a schema.
	Deleting a schema	This API is used to delete a schema to release all its resources.
	Querying DB instances available for creating a schema	This API is used to query DB instances that can be used for creating a schema.
	Creating a schema (a V3 API)	This API is used to create a schema.
	Deleting a schema (a V3 API)	This API is used to delete a schema.
	Querying details about a schema (a V3 API)	This API is used to query details about a schema.
	Exporting schema metadata (a V3 API)	This API is used to export schema metadata.

Type	API	Description
	Importing schema metadata (a V3 API)	This API is used to import schema metadata.
	Querying data nodes available for creating a schema (a V3 API)	This API is used to query data nodes available for creating a schema.
	Querying data nodes available for shard configuration (a V3 API)	This API is used to query data nodes that can be used for shard configuration.
	Pre-checking shard configuration (a V3 API)	This API is used to pre-check shard configuration.
	Querying the asynchronous pre-check result of shard configuration (a V3 API)	This API is used to query the asynchronous pre-check result of shard configuration.
	Configuring shards (a V3 API)	This API is used to configure shards.
	Querying details about a shard configuration task (a V3 API)	This API is used to query details about a shard configuration task.
	Canceling shard configuration (a V3 API)	This API is used to cancel shard configuration.
	Rolling back shard configuration (a V3 API)	This API is used to roll back shard configuration.
	Clearing shard configuration data (a V3 API)	This API is used to clear shard configuration data.

Type	API	Description
	Retrying shard configuration (a V3 API)	This API is used to retry shard configuration.
	Changing a route switching policy (a V3 API)	This API is used to change a route switching policy.
	Switching a route (a V3 API)	This API is used to switch a route.
APIs for managing DDM accounts	Creating a DDM account	This API is used to create a DDM account. DDM accounts are used to connect to and manage schemas. One DDM account can be associated with multiple schemas.
	Querying DDM accounts	This API is used to query DDM accounts.
	Modifying a DDM account	This API is used to modify the permissions and associated schemas of a DDM account.
	Deleting a DDM account	This API is used to delete a DDM account. This operation will also disassociate the account from schemas if any.
	Resetting the password of a DDM account	This API is used to reset the password of a DDM account.
	Managing an administrator password (a V3 API)	This API is used to manage the password of a DDM administrator account.
	Validating password strength (a V3 API)	This API is used to check whether an instance password is a weak password.
Task management	Obtaining information about a task with a specified ID	This API is used to obtain information about a task with a specified ID.
	Querying tasks (a V3 API)	This API is used to query tasks.
Monitoring	Monitoring slow query logs	This API is used to query the SQL statements that take a long time to execute on the DDM instance within a specified time range.

Type	API	Description
	Monitoring the read/write ratio (unavailable soon)	This API is used to query reads and writes of a DDM instance in a specified time range.
Session management	Querying logical sessions (a V3 API)	This API is used to query logical sessions.
	Killing logical sessions (a V3 API)	This API is used to kill logical sessions.
	Querying physical sessions (a V3 API)	This API is used to query physical sessions.
	Killing physical sessions (a V3 API)	This API is used to kill physical sessions.
	Querying audit logs of killing sessions (a V3 API)	This API is used to query audit logs of killing sessions.
Version management	Querying a DDM kernel version that can be changed (a V3 API)	This API is used to query a DDM kernel version that can be changed.
	Changing a DDM kernel version (a V3 API)	This API is used to change a DDM kernel version.
	Rolling back a DDM kernel version (a V3 API)	This API is used to roll back a DDM kernel version.
	Reminding users of risks for a DDM kernel version (a V3 API)	This API is used to remind users of risks for a DDM kernel version.

Type	API	Description
Parameter management	Obtaining parameter templates	This API is used to obtain parameter templates.
	Obtaining parameters of a specified parameter template	This API is used to obtain parameters of a specified parameter template.
	Modifying parameters of an instance (a V3 API)	This API is used to modify parameters of an instance.
	Modifying parameters of an instance (a V3.1 API)	This API is used to modify parameters of an instance. It is recommended.
	Creating a parameter template (a V3 API)	This API is used to create a parameter template.
	Deleting a parameter template (a V3 API)	This API is used to delete a parameter template.
Backup management	Obtaining backups	This API is used to query backups.
	Deleting a backup	This API is used to delete a backup.
	Querying backup details (a V3 API)	This API is used to query backup details.
	Querying data nodes associated with an instance at a restoration time point (a V3 API)	This API is used to query data nodes associated with an instance at a restoration time point.
	Querying the restoration time range (a V3 API)	This API is used to query the restoration time range of an instance.

Type	API	Description
	Querying data nodes available to restore data to a point in time (a V3 API)	This API is used to query data nodes available to restore data to a point in time.
	Querying instances that can be used for restoration (a V3 API)	This API is used to query instances that can be used for restoration.
	Restoring metadata (a V3 API)	This API is used to restore metadata.
	Restoring data to a new instance (a V3 API)	This API is used to restore data to a new instance.

# 3 Calling APIs

## 3.1 Making an API Request

This section describes the structure of a REST API and how to call an API. Before calling an API, you need to [obtain the user token](#) using the IAM API.

### Request URI

A request URI is in the following format:

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

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

**Table 3-1** 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 depending on the service and service region. <i>Endpoint</i> : Endpoint of the <b>Objective-function</b> . For details, see <a href="#">Regions and Endpoints</a> . For example, the endpoint of IAM in region <b>CN-Hong Kong</b> is <b>ddm.ap-southeast-1.myhuaweicloud.com</b> .
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the <b>resource-path</b> of the API used to obtain a user token is <b>/v3/auth/tokens</b> .

Parameter	Description
Query string	Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of "Parameter name=Parameter value". For example, <b>? limit=10</b> indicates that a maximum of 10 data records will be displayed.

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

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

 **NOTE**

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

## Request Method

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

**Table 3-2** HTTP methods

Method	Description
GET	Requests a server to return specified resources.
PUT	Requests a server to update specified resources.
POST	Requests the server to add a resource or perform special operations.
DELETE	Requests a server to delete specified resources, for example, an object.

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

```
POST https://iam.cn-north-1.myhuaweicloud.com/v3/auth/tokens
```

## Request Headers

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.

You can also add additional fields to the request header, for example, the fields required by a specified URI and an HTTP method. [Table 3-3](#) lists common request header fields.

**Table 3-3** Common request headers

Field	Description	Mandatory	Example
Host	Requested server information, which can be obtained from the URL of the service API. The value is in the <i>hostname[:port]</i> format. If the port number is not specified, the default port is used. The default port number for <b>https</b> is <b>443</b> .	No This parameter is mandatory for AK/SK authentication.	code.test.com or code.test.com:443
Content-Type	MIME type of the request body. You are advised to use the default value <b>application/json</b> . For APIs used to upload objects or images, the value varies depending on the flow type.	Yes	application/json
Content-Length	Length of the request body. The unit is byte.	This parameter is optional for POST requests, but must be left blank for GET requests.	3495

Field	Description	Mandatory	Example
X-Project-Id	Project ID. Obtain the project ID by following the instructions in <a href="#">Obtaining a Project ID</a> .	No This parameter is mandatory for requests that use AK/SK authentication in the Dedicated Cloud (DeC) scenario or multi-project scenario.	e9993fc787d94b6c886cb aa340f9c0f4
X-Auth-Token	User token After the request is processed, the value of <b>X-Subject-Token</b> in the header is the token value.	No This parameter is mandatory for token authentication.	The following is part of an example token: MIIPAgYJKoZIHvcNAQc-Co...ggg1BBIINPXsidG9rZ

 **NOTE**

In addition to supporting token-based authentication, APIs support authentication using access key ID/secret access key (AK/SK). During AK/SK-based authentication, an SDK is used to sign the request, and the **Authorization** (signature information) and **X-Sdk-Date** (time when the request is sent) header fields are automatically added to the request.

For more information, see [AK/SK-based Authentication](#).

The API used to [obtain a user token](#) does not require authentication. Therefore, this API only requires adding the **Content-Type** field. The request with the added **Content-Type** header is as follows:

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

### (Optional) Request Body

This part is optional. The body of a request is often sent in a structured format (for example, JSON or XML) as specified in the **Content-Type** header field. If the request body contains Chinese characters, these characters must be coded in UTF-8.

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

For the API used to [obtain a user token](#), the request parameters and parameter description can be obtained in the API request. The following provides an example request with a body included. Replace *username*, *domainname*, *\*\*\*\*\** (login

password), and `xxxxxxxxxxxxxxxxxxxx` (project name such as `cn-north-1`) with actual values. You can obtain the values from [Regions and Endpoints](#).

 **NOTE**

The **scope** parameter specifies where a token takes effect. You can set **scope** to an account or a project under an account. In the following example, the token takes effect only for the resources in a specified project.

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

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

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

## 3.2 Authentication

Requests for calling an API can be authenticated with either of the following methods:

- Token-based authentication: Requests are authenticated using a token.
- AK/SK-based authentication: Requests are authenticated by encrypting the request body using an AK/SK pair. Authentication using AK/SK is recommended because it is more secure than authentication using tokens.

### Token-based Authentication

 **NOTE**

The validity period of a token is 24 hours. If a token is required, the system caches the token to avoid frequent calling.

A token specifies temporary permissions in a computer system. Token-based authentication adds a token in a request as its header during API calling to obtain the permissions for operating APIs on IAM.

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

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

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

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

```
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

## AK/SK-based Authentication

### NOTE

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

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

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

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

**NOTICE**

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

### 3.3 Returned Values

#### Status Code

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

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

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

#### Response Header

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

**Figure 3-1** shows the response header for the API used to [obtain a user token](#). The **x-subject-token** header field is the desired user token. This token can then be used to authenticate the calling of other APIs.

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

```

connection → keep-alive

content-type → application/json

date → Tue, 12 Feb 2019 06:52:13 GMT

server → Web Server

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

transfer-encoding → chunked

via → proxy A

x-content-type-options → nosniff

x-download-options → noopen

x-frame-options → SAMEORIGIN

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

x-subject-token
→ MIiYXQYjKoZlhvcNAQcCoIIYJCCGEoCAQExDTALBglghkgBZQMEAgEwgharBgkqhkiG9w0BBwGgghacBIIWmHsidG9rZW4iOnsiZXhwaXJlc19hdCI6IjwMTktMDItMTNUMD.
fj3Kjs6YgKnpVNRbW2eZ5eb78SZOkqjACgklqO1wi4JlGzrpd18LGXK5tdfq4lqHCYb8P4NaYONyejAgzJVeFYtLWT1GSO0zxKZmlQHJQ82HBqHdglZO9fuEbl5dMhdavj+33wEI
xHRCE9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXlIjipPEGA270g1FruooL6jqglFKNPQuFSOU8+uSsttVwRtnfsC+qTp22Rkd5MCqFGQ8LcuUx3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUbvpGw-oPNFYxJECKnoH3Hrozv0vN--n5d6Nbxg==

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

#### (Optional) Response Body

This part is optional. 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.

For the API used to **obtain a user token**, the following information is returned. The following describes part of the request body.

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

```

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

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

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

# 4 APIs (Recommended)

---

## 4.1 Querying API Versions

### 4.1.1 Querying API Versions

#### Function

This API is used to query API versions.

#### Constraints

None

#### URI

- URL format  
GET /
- Parameter description  
None

#### Request Parameters

None

#### Example Request

Querying API versions

```
GET https://{endpoint}/
```

#### Response

- Normal response

**Table 4-1** Response body parameters

Parameter	Type	Description
versions	Array of <a href="#">ApiVersion</a> objects	API version information including links.

**Table 4-2** ApiVersion

Parameter	Type	Description
id	String	API version, for example, <b>v1</b> or <b>v3</b> .
links	Array of <a href="#">LinkInfo</a> objects	API link information. The value is empty when the version is <b>v1</b> or <b>v3</b> .
status	String	Version status. <b>CURRENT</b> : recommended version. <b>SUPPORTED</b> : earlier version which is still supported. <b>DEPRECATED</b> : deprecated version which may be deleted later.
version	String	If microversions are supported by APIs of the given version, the maximum microversion supported will be displayed. If microversions are not supported, this field will be empty.
updated	String	Version update time. The format is yyyy-mm-dd Thh:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the UTC.

**Table 4-3** LinkInfo

Parameter	Type	Description
href	String	URL of the API.
rel	String	Its value is <b>self</b> , indicating that <b>href</b> is a local link.

- Normal response example

```
{
  "versions": [
    {
      "id": "v3",
      "links": [],

```

```

    "status": "CURRENT",
    "updated": "2019-01-15T12:00:00Z",
    "version": ""
  },
  {
    "id": "v1",
    "links": [],
    "status": "DEPRECATED",
    "updated": "2017-02-07T17:34:02Z",
    "version": ""
  }
]
}

```

- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

# 4.2 DDM Instances

## 4.2.1 Buying a DDM Instance

### Function

This API is used to buy a DDM instance.

### Constraints

DDM runs in VPCs. Before you create a DDM instance, ensure that a VPC is available and a subnet and security group have been configured.

### URI

POST /v1/{project\_id}/instances

**Table 4-4** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .

## Request Parameters

**Table 4-5** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-6** Request body parameters

Parameter	Mandatory	Type	Description
instance	Yes	<a href="#">CreateInstanceDetail</a> object	Instance information
extend_param	No	<a href="#">CreateInstanceExtendParam</a> object	Extended parameter, which is available only when you create a yearly/monthly instance

**Table 4-7** CreateInstanceDetail

Parameter	Mandatory	Type	Description
name	Yes	String	Name of a DDM instance, which: <ul style="list-style-type: none"> <li>• Can include 4 to 64 characters.</li> <li>• Must start with a letter.</li> <li>• Can contain only letters, digits, underscores (_), and hyphens (-).</li> </ul>
flavor_id	Yes	String	Class ID
node_num	Yes	Integer	Number of nodes
engine_id	Yes	String	Engine ID
enterprise_project_id	No	String	Enterprise project ID

Parameter	Mandatory	Type	Description
available_zones	Yes	Array of strings	AZ code. The value cannot be empty. For details, see <a href="#">Regions and Endpoints</a> .
vpc_id	Yes	String	VPC ID
security_group_id	Yes	String	Security group ID
subnet_id	Yes	String	Subnet ID
param_group_id	No	String	Parameter template ID.
time_zone	No	String	UTC time zone. The default value is <b>UTC</b> . The value can be <b>UTC, UTC-12:00, UTC-11:00, UTC-10:00, UTC-09:00, UTC-08:00, UTC-07:00, UTC-06:00, UTC-05:00, UTC-04:00, UTC-03:00, UTC-02:00, UTC-01:00, UTC+01:00, UTC+02:00, UTC+03:00, UTC+05:00, UTC+06:00, UTC+07:00, UTC+08:00, UTC+09:00, UTC+10:00, UTC+11:00, and UTC+12:00</b> .
admin_username	No	String	Username of the administrator. The username: <ul style="list-style-type: none"> <li>• Can include 1 to 32 characters.</li> <li>• Must start with a letter.</li> <li>• Can contain only letters, digits, and underscores (_).</li> </ul>
admin_password	No	String	Password of the administrator. The password: <ul style="list-style-type: none"> <li>• Can include 8 to 32 characters.</li> <li>• Must be a combination of uppercase letters, lowercase letters, digits, and the following special characters: ~!@#%^*-_+?</li> </ul> Must be a strong password to improve security and prevent security risks such as brute force cracking.

**Table 4-8** CreateInstanceExtendParam

Parameter	Mandatory	Type	Description
charge_mode	No	String	<p>Billing mode. The value can be:</p> <ul style="list-style-type: none"> <li>• <b>prePaid</b>: indicates the yearly/monthly billing mode.</li> <li>• <b>postPaid</b>: indicates the pay-per-use billing mode. It is the default value.</li> </ul> <p>Default value: <b>postPaid</b></p> <p>Enumerated values:</p> <ul style="list-style-type: none"> <li>• <b>prePaid</b></li> <li>• <b>postPaid</b></li> </ul>
period_type	No	String	<p>Subscription period. The value can be:</p> <ul style="list-style-type: none"> <li>• <b>month</b>: indicates the subscription time unit is month.</li> <li>• <b>year</b>: indicates the subscription time unit is year. This parameter is valid and mandatory if <b>charge_mode</b> is set to <b>prePaid</b>.</li> </ul> <p>Enumerated values:</p> <ul style="list-style-type: none"> <li>• <b>month</b></li> <li>• <b>year</b></li> </ul>
period_num	No	Integer	<p>Subscription duration.</p> <ul style="list-style-type: none"> <li>• If <b>period_type</b> is set to <b>month</b>, the value ranges from <b>1</b> to <b>9</b>.</li> <li>• If <b>period_type</b> is set to <b>year</b>, the value is <b>1</b>. This parameter is valid and mandatory if <b>charge_mode</b> is set to <b>prePaid</b>.</li> </ul>

Parameter	Mandatory	Type	Description
is_auto_renew	No	String	<p>Whether the instance is automatically renewed when it expires. The value can be:</p> <ul style="list-style-type: none"> <li>• <b>true</b>: The instance is automatically renewed when it expires.</li> <li>• <b>false</b>: The instance is not automatically renewed when it expires. This parameter is valid when <b>charge_mode</b> is set to <b>prePaid</b>. The instance is not automatically renewed by default if no value is specified.</li> </ul> <p>Enumerated values:</p> <ul style="list-style-type: none"> <li>• <b>true</b></li> <li>• <b>false</b></li> </ul>
is_auto_pay	No	String	<p>Whether the order is paid from the customer's account balance. The value can be:</p> <ul style="list-style-type: none"> <li>• <b>true</b>: indicates that the order is automatically paid from the customer's account balance.</li> <li>• <b>false</b>: indicates that the order needs to be paid manually. This parameter is available if <b>charge_mode</b> is set to <b>prePaid</b>. The order needs to be paid manually by default if no value is specified.</li> </ul> <p>Enumerated values:</p> <ul style="list-style-type: none"> <li>• <b>true</b></li> <li>• <b>false</b></li> </ul>

## Response Parameters

Status code: 200

**Table 4-9** Response body parameters

Parameter	Type	Description
id	String	Instance ID. This parameter is returned only when a pay-per-use instance is created.
job_id	String	ID of the job for creating an instance. This parameter is returned only when pay-per-use instances are created.
order_id	String	Order ID. This parameter is returned only when a yearly/monthly instance is created.

**Status code: 400**

**Table 4-10** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-11** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Example Request**

- Creating a pay-per-use DDM instance. You are billed based on how long you use the instance by default.

POST [https://{endpoint}/v1/{project\\_id}/instances](https://{endpoint}/v1/{project_id}/instances)

```
{
  "instance": {
    "name": "ddm-test-001",
    "flavor_id": "8f2e696c-a9c1-30bd-af90-25522bc67606",
    "node_num": 4,
    "engine_id": "2325a707-0361-8be6-dd01-13474bbac437",
    "enterprise_project_id": "0",
    "available_zones": [ "az1" ],
    "vpc_id": "e1d886ec-cfe7-4cd4-b748-fc55a10b4172",
    "security_group_id": "035b70ed-319b-4086-9fd7-62a2e8548b2e",
    "subnet_id": "f942f970-1a02-4eee-8927-xxxxxxx",
  }
}
```

```

    "param_group_id" : "035b70ed-319b-4086-9fd7-xxxxxxx"
  }
}

```

- Creating a yearly/monthly DDM instance. You are billed on a monthly basis. The order will be paid from your account balance and automatically renewed before the subscription expires.

POST https://{endpoint}/v1/{project\_id}/instances

```

{
  "instance" : {
    "name" : "ddm-test-003",
    "flavor_id" : "8f2e696c-a9c1-30bd-af90-25522bc67606",
    "node_num" : 4,
    "engine_id" : "2325a707-0361-8be6-dd01-13474bbac437",
    "enterprise_project_id" : "0",
    "available_zones" : [ "az1" ],
    "vpc_id" : "e1d886ec-cfe7-4cd4-b748-fc55a10b4172",
    "security_group_id" : "035b70ed-319b-4086-9fd7-62a2e8548b2e",
    "subnet_id" : "f942f970-1a02-4eee-8927-xxxxxxx",
    "param_group_id" : "035b70ed-319b-4086-9fd7-xxxxxxx"
  },
  "extend_param" : {
    "charge_mode" : "prePaid",
    "period_type" : "month",
    "period_num" : 1,
    "is_auto_renew" : "true",
    "is_auto_pay" : "true"
  }
}

```

## Example Response

**Status code: 200**

OK

Buying a pay-per-use instance:

```

{
  "id": "e90bc6739a3c4666a577c3fa1524dac2in09",
  "job_id": "3ae783f3-844e-4051-abd5-b9cc65899785",
  "order_id": null
}

```

Buying a yearly/monthly instance:

```

{
  "id" : null,
  "job_id": null,
  "order_id" : "CS1810251738L8VVD"
}

```

**Status code: 400**

bad request

```

{
  "externalMessage" : "Parameter error.",
  "errCode" : "DBS.280001"
}

```

**Status code: 500**

server error

```

{
  "externalMessage" : "Server failure.",
}

```

```
"errCode" : "DBS.200412"  
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.2 Querying DDM Instances

### Function

This API is used to query DDM instances.

### Constraints

None

### URI

GET /v1/{project\_id}/instances?offset={offset}&limit={limit}

Table 4-12 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .

**Table 4-13** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a number but cannot be a negative number.
limit	No	Integer	Maximum instances to be queried. Value range: 1 to 128. If the parameter value is not specified, 10 instances are queried by default.

## Request Parameters

**Table 4-14** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

## Response Parameters

**Status code: 200**

**Table 4-15** Response body parameters

Parameter	Type	Description
instances	Array of <a href="#">ShowInstanceBeanResponse</a> objects	DDM instance information
instance_num	Integer	Number of DDM instances of a tenant
page_no	Integer	Current page
page_size	Integer	Data records on the current page

Parameter	Type	Description
total_record	Integer	Total records
total_page	Integer	Total pages

**Table 4-16** ShowInstanceBeanResponse

Parameter	Type	Description
id	String	DDM instance ID
status	String	DDM instance status. For details about this parameter value, see <a href="#">Status Description</a> .
name	String	Name of the created DDM instance
created	String	Time when the DDM instance is created. The time must be in the format of <b>yyyy-mm-dd Thh:mm:ssZ</b> . <b>T</b> indicates the separator between the calendar and the hourly notation of time. <b>Z</b> indicates Coordinated Universal Time (UTC).
updated	String	Time when the DDM instance is last updated, which is in the same format as <b>created</b> .
available_zone	String	AZ name
vpc_id	String	VPC ID
subnet_id	String	Subnet ID
security_group_id	String	Security group ID
node_count	Integer	Number of nodes
access_ip	String	Address for accessing the DDM instance
access_port	String	Port for accessing the DDM instance
core_count	String	Number of vCPUs
ram_capacity	String	Memory size in GB
error_msg	String	Response message. This parameter is not returned if no abnormality occurs.
node_status	String	Node status
enterprise_project_id	String	Enterprise project ID
project_id	String	Project ID of a tenant in a region

Parameter	Type	Description
engine_version	String	Engine version
order_id	String	Order ID, which is returned if the DDM instance is billed on a yearly/monthly basis
enable_ssl	Boolean	Whether SSL is enabled. The value can be: <ul style="list-style-type: none"> <li>• <b>true</b>: SSL is enabled for the instance.</li> <li>• <b>false</b>: SSL is disabled for the instance.</li> </ul>
flavor_ref	String	Specification code

**Table 4-17** ProjectTag

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

**Status code: 400**

**Table 4-18** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-19** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Querying DDM instances

```
GET https://{endpoint}/v1/{project_id}/instances?offset={offset}&limit={limit}
```

## Example Response

**Status code: 200**

OK

```
{
  "instance_num" : 26,
  "instances" : [ {
    "id" : "73f27bb0b26d4a79a9b0c58a4c700c4fin09",
    "status" : "RUNNING",
    "name" : "ddm-36c7",
    "created" : "2021-12-14T07:46:22+0000",
    "updated" : "2021-12-14T10:11:22+0000",
    "available_zone" : "az1",
    "vpc_id" : "1d9441c5-1a4b-431d-9edb-bf3564a83e74",
    "subnet_id" : "20c2d83c-755b-42a2-846a-4688eb35d1a7",
    "security_group_id" : "fbdff89d-32fe-45a4-832b-115ac4bfaac9",
    "node_count" : 1,
    "access_ip" : "192.168.23.143",
    "access_port" : "5066",
    "core_count" : "2",
    "ram_capacity" : "4",
    "node_status" : "RUNNING",
    "enterprise_project_id" : "0",
    "project_id" : "055d9f4ee780d4d42f96c01c1bc3c50c",
    "engine_version" : "3.0.8",
    "enable_ssl" : false,
    "flavor_ref" : "ddm.c6.large.2"
  } ],
  "page_size" : 1,
  "total_record" : 26,
  "total_page" : 26,
  "page_no" : 3
}
```

**Status code: 400**

Bad request

```
{
  "externalMessage" : "Parameter error.",
  "errCode" : "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "externalMessage" : "Server failure.",
  "errCode" : "DBS.200412"
}
```

## Status Codes

Status Code	Description
200	OK

Status Code	Description
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.3 Querying Details of a DDM Instance

### Function

This API is used to query details about a DDM instance.

### Constraints

None

### URI

GET /v1/{project\_id}/instances/{instance\_id}

**Table 4-20** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-21** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

## Response Parameters

Status code: 200

**Table 4-22** Response body parameters

Parameter	Type	Description
id	String	DDM instance ID
status	String	DDM instance status. For details about this parameter value, see <a href="#">Status Description</a> .
name	String	DDM instance name
created	String	Time when the DDM instance is created. The time must be in the format of <b>yyyy-mm-dd Thh:mm:ssZ</b> .
updated	String	Time when the DDM instance is last updated
available_zone	String	Name of the AZ where the DDM instance is located
vpc_id	String	VPC ID
subnet_id	String	Subnet ID
security_group_id	String	Security group ID
node_count	Integer	Number of nodes
access_ip	String	Address for accessing the DDM instance
access_port	String	Port for accessing the DDM instance
node_status	String	Node status
core_count	String	Number of vCPUs
ram_capacity	String	Memory size in GB
error_msg	String	Response message. This parameter is not returned if no abnormality occurs.
project_id	String	Project ID
order_id	String	Order ID. No value is returned when a pay-per-use instance is created.
enterprise_project_id	String	Enterprise project ID
engine_version	String	Engine version.

Parameter	Type	Description
nodes	Array of <a href="#">GetDetailNodesInfo</a> objects	Node information
admin_username	String	Username of the administrator. The username:
enable_ssl	Boolean	Whether SSL is enabled. The value can be: <ul style="list-style-type: none"> <li>• <b>true</b>: SSL is enabled for the instance.</li> <li>• <b>false</b>: SSL is disabled for the instance.</li> </ul>
flavor_ref	String	Specification code

**Table 4-23** GetDetailNodesInfo

Parameter	Type	Description
status	String	Status of the DDM instance node
port	String	Port of the DDM instance node
ip	String	IP address of the DDM instance node. If load balancing is enabled, the value is the ELB IP address of the group that the node belongs to.
group_id	String	ID of the group that the node belongs to
node_id	String	Node ID

**Status code: 400**

**Table 4-24** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-25** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Querying details of a DDM instance

```
GET https://{endpoint}/v1/{project_id}/instances/{instance_id}
```

## Example Response

**Status code: 200**

OK

```
{
  "nodes": [ {
    "status": "RUNNING",
    "port": 5066,
    "ip": "192.168.0.160",
    "group_id": "b4153b807b1a4f83870bf868fcc4f4eagr09",
    "node_id": "4a2b97b7f5e3462c9c78aae93b46ed83no09"
  } ],
  "id": "1f5c9fd6cd984056ba89c8c87cc03278in09",
  "status": "RUNNING",
  "name": "ddm2-test",
  "created": "2021-11-09T03:30:01+0000",
  "updated": "2021-12-15T09:12:58+0000",
  "available_zone": "az1",
  "vpc_id": "cfaa4024-0603-4aba-81d4-2203b4ad26fb",
  "subnet_id": "48f270ef-af70-4ad9-bb1c-c28dd5b37f93",
  "security_group_id": "bc28ef93-0083-4652-bce6-381e14284db6",
  "node_count": 1,
  "access_ip": "192.168.0.160",
  "access_port": "5066",
  "core_count": "2",
  "ram_capacity": "8",
  "node_status": "RUNNING",
  "enterprise_project_id": "0",
  "project_id": "070c071d8e80d58c2f42c0121b10cf9f",
  "engine_version": "3.0.6",
  "admin_user_name": "root",
  "enable_ssl": false,
  "flavor_ref": "ddm.c6.large.2"
}
```

**Status code: 400**

Bad request

```
{
  "externalMessage": "Parameter error.",
  "errCode": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{  
  "externalMessage" : "Server failure.",  
  "errCode" : "DBS.200412"  
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.4 Modifying the Name of a DDM Instance

### Function

This API is used to modify the name of a DDM instance.

### Constraints

None

### URI

PUT /v1/{project\_id}/instances/{instance\_id}/modify-name

**Table 4-26** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-27** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-28** Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Name of a DDM instance, which: <ul style="list-style-type: none"> <li>• Can include 4 to 64 characters.</li> <li>• Must start with a letter.</li> <li>• Can contain only letters, digits, underscores (_), and hyphens (-).</li> </ul>

## Response Parameters

**Status code: 200**

**Table 4-29** Response body parameters

Parameter	Type	Description
name	String	DDM instance name

**Status code: 400**

**Table 4-30** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-31** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Example Request**

Modifying the name of a DDM instance

PUT https://{endpoint}/v1/{project\_id}/instances/{instance\_id}/modify-name

```
{
  "name" : "DDM-test-04"
}
```

**Example Response**

**Status code: 200**

OK

```
{
  "name" : "DDM-test-04"
}
```

**Status code: 400**

Bad request

```
{
  "externalMessage" : "Parameter error.",
  "errCode" : "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "externalMessage" : "Server failure.",
  "errCode" : "DBS.200412"
}
```

**Status Codes**

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.5 Changing the Security Group of a DDM Instance

### Function

This API is used to modify the security group of a DDM instance.

### Constraints

None

### URI

PUT /v1/{project\_id}/instances/{instance\_id}/modify-security-group

**Table 4-32** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

### Request Parameters

**Table 4-33** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-34** Request body parameters

Parameter	Mandatory	Type	Description
security_group_id	Yes	String	Security group ID. The default value is the original security group ID. You can change the value as required.

## Response Parameters

**Status code: 200**

**Table 4-35** Response body parameters

Parameter	Type	Description
security_group_id	String	Security group ID

**Status code: 400**

**Table 4-36** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-37** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Changing the security group of a DDM instance

```
PUT https://{endpoint}/v1/{project_id}/instances/{instance_id}/modify-security-group
```

```
{  
  "security_group_id" : "035b70ed-319b-4086-9fd7-62a2e8548b2e"  
}
```

## Example Response

**Status code: 200**

OK

```
{  
  "security_group_id" : "035b70ed-319b-4086-9fd7-62a2e8548b2e"  
}
```

**Status code: 400**

Bad request

```
{  
  "externalMessage" : "Parameter error.",  
  "errCode" : "DBS.280001"  
}
```

**Status code: 500**

Server error

```
{  
  "externalMessage" : "Server failure.",  
  "errCode" : "DBS.200412"  
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.6 Deleting a DDM Instance

### Function

This API is used to delete a DDM instance to release all its resources.

### Constraints

Yearly/Monthly instances cannot be deleted.

## URI

DELETE /v1/{project\_id}/instances/{instance\_id}

**Table 4-38** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

**Table 4-39** Query parameters

Parameter	Mandatory	Type	Description
delete_rds_data	No	String	Whether data stored on the associated DB instances is deleted. The value can be: <ul style="list-style-type: none"> <li><b>true</b>: indicates that the data stored on the associated DB instances is deleted.</li> <li><b>false</b>: indicates that the data stored on the associated DB instances is not deleted. It is left blank by default.</li> </ul> Enumerated values: <ul style="list-style-type: none"> <li><b>true</b></li> <li><b>false</b></li> </ul>

## Request Parameters

**Table 4-40** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

## Response Parameters

**Status code: 200**

**Table 4-41** Response body parameters

Parameter	Type	Description
id	String	DDM instance ID

**Status code: 400**

**Table 4-42** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-43** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

- Deleting a DDM instance (including the data stored on associated DB instances)  
DELETE https://{endpoint}/v1/{project\_id}/instances/{instance\_id}?delete\_rds\_data=true
- Deleting a DDM instance (excluding the data stored on associated DB instances)  
DELETE https://{endpoint}/v1/{project\_id}/instances/{instance\_id}?delete\_rds\_data=false

## Example Response

**Status code: 200**

OK

```
{
  "id" : "9608ce63-bf66-4342-be8a-44f9b6b15d54",
  "job_id" : "1c403d1d-d3e9-4b3e-9750-7cd6a58376d9"
}
```

**Status code: 400**

Bad request

```
{  
  "externalMessage" : "Parameter error.",  
  "errCode" : "DBS.280001"  
}
```

**Status code: 500**

Server error

```
{  
  "externalMessage" : "Server failure.",  
  "errCode" : "DBS.200412"  
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.7 Restarting a DDM Instance

### Function

This API is used to restart a DDM instance.

### Constraints

None

### URI

POST /v1/{project\_id}/instances/{instance\_id}/action

**Table 4-44** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-45** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-46** Request body parameters

Parameter	Mandatory	Type	Description
restart	No	<a href="#">RestartInstanceInfo</a> object	Restart-related parameter

**Table 4-47** RestartInstanceInfo

Parameter	Mandatory	Type	Description
type	No	String	Restart type, which can be <b>soft</b> or <b>hard</b> . <ul style="list-style-type: none"> <li><b>soft</b>: Only the process is restarted.</li> <li><b>hard</b>: The instance VM is forcibly restarted.</li> </ul> Enumerated values: <ul style="list-style-type: none"> <li><b>soft</b></li> <li><b>hard</b></li> </ul>

## Response Parameters

**Status code: 200**

**Table 4-48** Response body parameters

Parameter	Type	Description
instanceId	String	DDM instance ID
instanceName	String	DDM instance name
jobId	String	Task ID

**Status code: 400**

**Table 4-49** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-50** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Restarting a DDM instance (only the instance process)

```
POST https://{endpoint}/v1/{project_id}/instances/{instance_id}/action
```

```
{
  "restart": {
    "type": "soft"
  }
}
```

## Example Response

**Status code: 200**

ok

```
{  
  "instanceId" : "28e8841d0b9c4f6a9a30742ee60e1068in09",  
  "instanceName" : "ddm-fb88-test",  
  "jobId" : "1eb697c0-1842-43a3-8671-f562d0385cb9"  
}
```

**Status code: 400**

Bad request

```
{  
  "externalMessage" : "Parameter error.",  
  "errCode" : "DBS.280001"  
}
```

**Status code: 500**

Server error

```
{  
  "externalMessage" : "Server failure.",  
  "errCode" : "DBS.200412"  
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.8 Reloading Table Data

### Function

This API is used to reload table data of the destination DDM instance for cross-region DR.

### Constraints

None

### URI

POST /v1/{project\_id}/instances/{instance\_id}/reload-config

**Table 4-51** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-52** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

## Response Parameters

**Status code: 400**

**Table 4-53** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-54** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Reloading table data

```
POST https://{endpoint}/v1/{project_id}/instances/{instance_id}/reload_config
{ }
```

## Example Response

**Status code: 200**

OK

```
{ }
```

**Status code: 400**

Bad request

```
{
  "externalMessage" : "Parameter error.",
  "errCode" : "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "externalMessage" : "Server failure.",
  "errCode" : "DBS.200412"
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.9 Scaling Out a DDM Instance

### Function

This API is used to scale out a specified DDM instance. Pay-per-use and yearly/monthly instances are all supported.

## Constraints

Make sure that the associated RDS instances are available and not undergoing other operations.

## URI

POST /v2/{project\_id}/instances/{instance\_id}/action/enlarge

**Table 4-55** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-56** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-57** Request body parameters

Parameter	Mandatory	Type	Description
flavor_id	Yes	String	Flavor ID of the VM for deploying the DDM instance that is to be scaled out
node_number	Yes	Integer	Number of nodes to be added
group_id	No	String	Group ID, which specifies the group that is scaled out. This parameter must be specified if there are more than one node group.

Parameter	Mandatory	Type	Description
is_auto_pay	No	Boolean	<p>Whether the order is automatically paid when you change the node class of a yearly/monthly instance. This parameter does not affect the billing mode of automatic renewal.</p> <ul style="list-style-type: none"> <li>• <b>true</b>: indicates that the order is automatically paid from the account.</li> <li>• <b>false</b>: indicates that the order is manually paid from the account. The default value is <b>false</b>.</li> </ul>
available_zones	No	Array of strings	<p>AZ code. This parameter is valid only for yearly/monthly instances. The number of AZs must be same as that specified in <b>node_number</b>. For details, see <a href="#">Regions and Endpoints</a>.</p>

## Response Parameters

**Status code: 200**

**Table 4-58** Response body parameters

Parameter	Type	Description
instanceId	String	DDM instance ID
instanceName	String	DDM instance name. This parameter is returned only for pay-per-use instances.
jobId	String	Task ID. This parameter is returned only for pay-per-use instances.
orderId	String	Order ID. This parameter is returned only for yearly/monthly instances.

**Status code: 400**

**Table 4-59** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-60** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

- Scaling out a pay-per-use DDM instance. The number of nodes to be added is 1.

```
POST https://{endpoint}/v2/{project_id}/instances/{instance_id}/action/enlarge
{
  "flavor_id": "8f2e696c-a9c1-30bd-af90-25522bc67606",
  "node_number": 1
}
```
- Scaling out a pay-per-use DDM instance that has more than one group. The number of nodes to be added is 1.

```
POST https://{endpoint}/v2/{project_id}/instances/{instance_id}/action/enlarge
{
  "flavor_id": "8f2e696c-a9c1-30bd-af90-25522bc67606",
  "group_id": "f080abf2010d45118068c28c8958f5fcgr09",
  "node_number": 1
}
```
- Scaling out a yearly/monthly DDM instance. The number of nodes to be added is 1 and the order is paid from your account balance.

```
POST https://{endpoint}/v2/{project_id}/instances/{instance_id}/action/enlarge
{
  "flavor_id": "8f2e696c-a9c1-30bd-af90-25522bc67606",
  "node_number": 1,
  "is_auto_pay": true,
  "available_zones": [
    "az1xahz"
  ]
}
```

## Example Response

**Status code: 200**

OK

```
{  
  "instanceId" : "28e8841d0b9c4f6a9a30742ee60e1068in09",  
  "instanceName" : "ddm-fb88-test",  
  "jobId" : "1eb697c0-1842-43a3-8671-f562d0385cb9"  
}
```

**Status code: 400**

Bad request

```
{  
  "externalMessage" : "Parameter error.",  
  "errCode" : "DBS.280001"  
}
```

**Status code: 500**

Server error

```
{  
  "externalMessage" : "Server failure.",  
  "errCode" : "DBS.200412"  
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.10 Scaling In a DDM Instance

### Function

This API is used to remove nodes from a specified DDM instance.

### Constraints

Make sure that the associated RDS instances are available and not undergoing other operations. Yearly/Monthly instances do not support this operation.

### URI

POST /v2/{project\_id}/instances/{instance\_id}/action/reduce

**Table 4-61** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-62** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-63** Request body parameters

Parameter	Mandatory	Type	Description
node_number	Yes	Integer	Number of the nodes to be removed. The maximum value is the instance nodes minus 1.
group_id	No	String	Group ID, which specifies the group that is scaled out. This parameter must be specified if there are more than one node group.

## Response Parameters

**Status code: 200**

**Table 4-64** Response body parameters

Parameter	Type	Description
instanceId	String	DDM instance ID
instanceName	String	DDM instance name

Parameter	Type	Description
jobId	String	Task ID. This parameter is returned only for pay-per-use instances.
orderId	String	Order ID. This parameter is returned only for yearly/monthly instances.

**Status code: 400**

**Table 4-65** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-66** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

- Scaling in a DDM instance. The number of nodes to be removed is 2.  
 POST https://{endpoint}/v2/{project\_id}/instances/{instance\_id}/action/reduce  

```
{
  "node_number": 2
}
```
- Scaling in a DDM instance that has more than one group. The number of nodes to be removed is 1.  
 POST https://{endpoint}/v2/{project\_id}/instances/{instance\_id}/action/reduce  

```
{
  "group_id": "f080abf2010d45118068c28c8958f5fcgr09",
  "node_number": 1
}
```

## Example Response

**Status code: 200**

OK

```
{  
  "instanceId" : "28e8841d0b9c4f6a9a30742ee60e1068in09",  
  "instanceName" : "BUG-ddm-fb88-test",  
  "jobId" : "1eb697c0-1842-43a3-8671-f562d0385cb9"  
}
```

**Status code: 400**

Bad request

```
{  
  "externalMessage" : "Parameter error.",  
  "errCode" : "DBS.280001"  
}
```

**Status code: 500**

Server error

```
{  
  "externalMessage" : "Server failure.",  
  "errCode" : "DBS.200412"  
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.11 Modifying the Read Policy of the Associated DB Instance

### Function

This API is used to modify the read policy of the DB instance associated with a DDM instance.

### Constraints

Make sure that the associated RDS instances are available and not undergoing other operations.

### URI

PUT /v2/{project\_id}/instances/{instance\_id}/action/read-write-strategy

**Table 4-67** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-68** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-69** Request body parameters

Parameter	Mandatory	Type	Description
read_weight	Yes	Map<String, Integer>	Read weights of the primary DB instance and its read replicas <ul style="list-style-type: none"> <li>key: DB instance ID</li> <li>value: read weight parameter</li> </ul>

## Response Parameters

**Status code: 200**

**Table 4-70** Response body parameters

Parameter	Type	Description
success	Boolean	Whether the operation is successful
instance_id	String	DDM instance ID

**Status code: 400**

**Table 4-71** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-72** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Modifying the read policy of the associated DB instance

```
PUT https://{endpoint}/v2/{project_id}/instances/{instance_id}/action/read-write-strategy
{
  "read_weight" : {
    "395298ae6fb9496d95939ed556474983in01" : 60,
    "38ef52c365a14b7caeb7333137900e96in01" : 50
  }
}
```

## Example Response

**Status code: 200**

OK

```
{
  "success" : true,
  "instance_id" : "175f5aff-xxxx-xxxx-xxxx-d0858982bbec"
}
```

**Status code: 400**

Bad request

```
{
  "externalMessage" : "Parameter error.",
  "errCode" : "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "externalMessage" : "Server failure.",
}
```

```
"errCode" : "DBS.200412"  
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.12 Synchronizing Data Node Information

### Function

This API is used to synchronize configuration information of all data nodes that are associated with a DDM instance.

### Constraints

None

### URI

POST /v1/{project\_id}/instances/{instance\_id}/rds/sync

**Table 4-73** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-74** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

## Response Parameters

**Status code: 200**

**Table 4-75** Response body parameters

Parameter	Type	Description
instanceId	String	DDM instance ID
jobId	String	Task ID

**Status code: 400**

**Table 4-76** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-77** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Synchronizing data node information

```
POST https://{endpoint}/v1/{project_id}/instances/{instance_id}/rds/sync
None
```

## Example Response

**Status code: 200**

OK

```
{
  "instanceId" : "1f5c9fd6cd984056ba89c8c87cc03278in09",
  "jobId" : "6f1334ca-faa6-479e-837f-f3219192675e"
}
```

**Status code: 400**

Bad request

```
{
  "externalMessage" : "Parameter error.",
  "errCode" : "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "externalMessage" : "Server failure.",
  "errCode" : "DBS.200412"
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.13 Querying Nodes of a DDM Instance

### Function

This API is used to query nodes of a DDM instance.

## Constraints

None

## URI

GET /v1/{project\_id}/instances/{instance\_id}/nodes?offset={offset}&limit={limit}

**Table 4-78** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

**Table 4-79** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.
limit	No	Integer	Maximum nodes to be queried. Value range: 1 to 128. If the parameter value is not specified, 128 nodes are queried by default.

## Request Parameters

**Table 4-80** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

## Response Parameters

**Status code: 200**

**Table 4-81** Response body parameters

Parameter	Type	Description
nodes	Array of <b>NodeList</b> objects	Instance node information
offset	Integer	Which page the server starts returning items.
limit	Integer	Number of records displayed on each page
total	Integer	Number of DDM instance nodes

**Table 4-82** NodeList

Parameter	Type	Description
port	String	Port
status	String	Node status
node_id	String	Node ID
ip	String	Private IP address (data floating IP address) of the node
group_id	String	ID of the group that the node belongs to

**Status code: 400**

**Table 4-83** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-84** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Querying nodes of a DDM instance

```
GET https://{endpoint}/v1/{project_id}/instances/{instance_id}/nodes?offset={offset}&limit={limit}
```

## Example Response

**Status code: 200**

OK

```
{
  "nodes": [ {
    "port": "5066",
    "status": "normal",
    "node_id": "4a2b97b7f5e3462c9c78aae93b46ed83no09",
    "ip": "192.168.0.160",
    "group_id": "b4153b807b1a4f83870bf868fcc4f4eagr09"
  } ],
  "offset": 0,
  "limit": 128,
  "total": 1
}
```

**Status code: 400**

Bad request

```
{
  "externalMessage": "Parameter error.",
  "errCode": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "externalMessage": "Server failure.",
  "errCode": "DBS.200412"
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request

Status Code	Description
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.14 Querying Details of a DDM Instance Node

### Function

This API is used to query details of a DDM instance node.

### Constraints

None

### URI

GET /v1/{project\_id}/instances/{instance\_id}/nodes/{node\_id}

**Table 4-85** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID
node_id	Yes	String	DDM instance node ID

### Request Parameters

**Table 4-86** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

## Response Parameters

### Status code: 200

**Table 4-87** Response body parameters

Parameter	Type	Description
status	String	Node status
name	String	Node name
node_id	String	Node ID
private_ip	String	Private IP address (data floating IP address) of the node
floating_ip	String	Management floating IP address
server_id	String	VM ID
subnet_name	String	Subnet name
datavolume_id	String	Data disk ID
res_subnet_ip	String	Data synchronization IP address
systemvolume_id	String	System disk ID
group_id	String	ID of the group that the node belongs to
subnet_id	String	Subnet ID

### Status code: 400

**Table 4-88** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

### Status code: 500

**Table 4-89** Response body parameters

Parameter	Type	Description
errCode	String	Service error code

Parameter	Type	Description
externalMessage	String	Error message

## Example Request

Querying details of a DDM instance node

```
GET https://{endpoint}/v1/{project_id}/instances/{instance_id}/nodes/{node_id}
```

## Example Response

**Status code: 200**

OK

```
{
  "status": "normal",
  "name": "ddm2-test_node_01",
  "node_id": "4a2b97b7f5e3462c9c78aae93b46ed83no09",
  "private_ip": "192.168.0.160",
  "floating_ip": "100.65.78.158",
  "server_id": "8bd4d0bd-f63e-489a-95b6-50351f9657e6",
  "datavolume_id": "30ade9fb-26de-4d1f-af08-c376974b9d86",
  "res_subnet_ip": "172.16.15.224",
  "systemvolume_id": "88d7de55-f886-4929-ae7c-04d842959700",
  "group_id": "b4153b807b1a4f83870bf868fcc4f4eagr09"
}
```

**Status code: 400**

Bad request

```
{
  "externalMessage": "Parameter error.",
  "errCode": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "externalMessage": "Server failure.",
  "errCode": "DBS.200412"
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.15 Querying DDM Engine Information

### Function

This API is used to query information about DDM engine.

### Constraints

None

### URI

GET /v2/{project\_id}/engines?offset={offset}&limit={limit}

**Table 4-90** Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .

**Table 4-91** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a positive integer.
limit	No	Integer	Maximum engines to be queried. Value range: 1 to 128. If the parameter value is not specified, 128 nodes are queried by default.

## Request Parameters

**Table 4-92** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

## Response Parameters

Status code: 200

**Table 4-93** Response body parameters

Parameter	Type	Description
engineGroups	Array of <a href="#">EngineGroupInfo</a> objects	Information of available engines
offset	Integer	Which page the server starts returning items
limit	Integer	Number of records displayed on each page
total	Integer	Number of engine versions

**Table 4-94** EngineGroupsInfo

Parameter	Type	Description
id	String	Engine ID
name	String	Engine name
version	String	Engine version
supportAzs	Array of <a href="#">SupportAzsInfo</a> objects	AZs

**Table 4-95** SupportAzsInfo

Parameter	Type	Description
code	String	AZ code

Parameter	Type	Description
name	String	AZ name
favored	Boolean	Whether the current AZ is supported

**Status code: 400**

**Table 4-96** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-97** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Querying DDM engine information

```
GET https://{endpoint}/v2/{project_id}/engines?offset={offset}&limit={limit}
```

## Example Response

**Status code: 200**

OK

```
{
  "engineGroups": [ {
    "id": "b6907aa2-aacb-3ac9-9782-b90b152d456c",
    "name": "ddm",
    "version": "3.0.8",
    "supportAzs": [ {
      "code": "az1",
      "name": "az1",
      "favored": false
    }, {
      "code": "az2",
      "name": "az2",
      "favored": true
    }
  ]
}
```

```
    } ]  
  } ],  
  "offset" : 0,  
  "limit" : 128,  
  "total" : 1  
}
```

**Status code: 400**

bad request

```
{  
  "externalMessage" : "Parameter error.",  
  "errCode" : "DBS.280001"  
}
```

**Status code: 500**

server error

```
{  
  "externalMessage" : "Server failure.",  
  "errCode" : "DBS.200412"  
}
```

## Status Codes

Status Code	Description
200	OK
400	bad request
500	server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.16 Querying DDM Node Classes Available in an AZ

### Function

This API is used to query DDM node classes available in an AZ.

### Constraints

None

### URI

GET /v2/{project\_id}/flavors?engine\_id={engine\_id}&offset={offset}&limit={limit}

**Table 4-98** Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .

**Table 4-99** Query parameters

Parameter	Mandatory	Type	Description
engine_id	Yes	String	Engine ID, which can be obtained by calling the API for querying DDM engine information.
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a positive integer.
limit	No	Integer	Maximum node classes to be queried. Value range: 1 to 128. If the parameter value is not specified, 128 nodes are queried by default.

## Request Parameters

**Table 4-100** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

## Response Parameters

**Status code: 200**

**Table 4-101** Response body parameters

Parameter	Type	Description
computeFlavorGroups	Array of <a href="#">ComputeFlavorGroupsInfo</a> objects	Compute flavor information

**Table 4-102** ComputeFlavorGroupsInfo

Parameter	Type	Description
groupType	String	Compute resource architecture type. The value can be <b>x86</b> or <b>Arm</b> .
computeFlavors	Array of <a href="#">ComputeFlavors</a> objects	Compute flavors
offset	Integer	Which page the server starts returning items
limit	Integer	Number of records displayed on each page
total	Integer	Total number of compute flavors

**Table 4-103** ComputeFlavors

Parameter	Type	Description
id	String	Class ID
typeCode	String	Resource type code
code	String	VM flavor types recorded in DDM
iaasCode	String	VM flavor types recorded by the IaaS layer
cpu	String	Number of vCPUs
mem	String	Memory size in GB
maxConnections	String	Maximum number of connections
serverType	String	Compute resource type
architecture	String	Compute resource architecture type. The value can be <b>x86</b> or <b>ARM</b> .

Parameter	Type	Description
azStatus	Map<String,String>	Status of the AZ where node classes are available. The key is the AZ ID and the value is the AZ status. The value can be: <ul style="list-style-type: none"> <li>• <b>normal</b>: indicates that the node classes in the AZ are available.</li> <li>• <b>unsupported</b>: indicates that the node classes are not supported by the AZ.</li> <li>• <b>sellout</b>: indicates that the node classes in the AZ are sold out.</li> </ul>
regionStatus	String	Region status
groupType	String	Compute resource architecture type. The value can be <b>x86</b> or <b>ARM</b> .
dbType	String	Engine type
extendFields	Map<String,String>	Extension field for storing AZ information

**Status code: 400**

**Table 4-104** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-105** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Querying DDM node classes available in an AZ

```
GET https://{endpoint}/v2/{project_id}/flavors?engine_id={engine_id}&offset={offset}&limit={limit}
```

## Example Response

Status code: 200

OK

```
{
  "computeFlavorGroups" : [ {
    "offset" : 0,
    "limit" : 128,
    "total" : 6,
    "groupType" : "X86",
    "computeFlavors" : [ {
      "id" : "8f2e696c-a9c1-30bd-af90-25522bc67606",
      "typeCode" : "hws.resource.type.ddm",
      "code" : "ddm.c3.large.2",
      "iaasCode" : "c3.large.2",
      "cpu" : "2",
      "mem" : "4",
      "maxConnections" : "null",
      "serverType" : "KVM",
      "architecture" : "X86",
      "azStatus" : {
        "az2.dc0" : "unsupported",
        "az3xahz" : "normal",
        "az2xahz" : "normal",
        "az1xahz" : "normal"
      },
      "regionStatus" : "normal",
      "dbType" : "DDM",
      "extendFields" : {
        "azCode" : "az2.dc0,az3xahz,az2xahz,az1xahz",
        "azDescription" : "az2.dc0,az3xahz,az2xahz,az1xahz"
      }
    }
  ]
}, {
  "offset" : 0,
  "limit" : 128,
  "total" : 3,
  "groupType" : "ARM",
  "computeFlavors" : [ {
    "id" : "87a6cb8b-0c56-3e16-a91d-9b680a1f8b7f",
    "typeCode" : "hws.resource.type.ddm",
    "code" : "ddm.rc6.large.2",
    "iaasCode" : "kc1.xlarge.2",
    "cpu" : "4",
    "mem" : "8",
    "maxConnections" : "null",
    "serverType" : "KVM",
    "architecture" : "ARM",
    "azStatus" : {
      "az2.dc0" : "unsupported",
      "az3xahz" : "normal",
      "az2xahz" : "normal",
      "az1xahz" : "normal"
    },
    "regionStatus" : "normal",
    "groupType" : "null",
    "dbType" : "DDM",
    "extendFields" : {
      "azCode" : "az2.dc0,az3xahz,az2xahz,az1xahz",
      "azDescription" : "az2.dc0,az3xahz,az2xahz,az1xahz"
    }
  }
  ]
}
]
```

Status code: 400

bad request

```
{  
  "externalMessage" : "Parameter error.",  
  "errCode" : "DBS.280001"  
}
```

**Status code: 500**

server error

```
{  
  "externalMessage" : "Server failure.",  
  "errCode" : "DBS.200412"  
}
```

## Status Codes

Status Code	Description
200	OK
400	bad request
500	server error

## Error Codes

For details, see [Error Codes](#).

## 4.2.17 Changing the Node Class of a DDM Instance

### Function

This API is used to change the node class of a DDM instance.

### Constraints

- The node class can be changed only when the corresponding DDM instance is normal.
- The new node class cannot be the same as the original one.
- Node classes of c6s series cannot be changed to those classes of c6 series.

### URI

PUT /v3/{project\_id}/instances/{instance\_id}/flavor

**Table 4-106** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-107** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-108** Request body parameters

Parameter	Mandatory	Type	Description
spec_code	Yes	String	Resource specification code of the new node class
group_id	No	String	This parameter is not required if the instance has only one node group. Each instance has one node group by default. If you need to create multiple node groups, set this parameter to the ID of the group whose node class you want to change.

Parameter	Mandatory	Type	Description
is_auto_pay	No	Boolean	Whether the order is automatically paid when you change the node class of a yearly/monthly instance. This parameter does not affect the billing mode of automatic renewal. <b>true</b> : indicates that the order is automatically paid from the account. <b>false</b> : indicates that the order is manually paid from the account. The default value is <b>false</b> .

## Example Request

Changing node class of a DDM instance to **ddm.c6.4xlarge.2**

```
PUT https://{endpoint}/v3/{project_id}/instances/{instance_id}/flavor
{
  "spec_code" : "ddm.c6.4xlarge.2",
  "group_id" : "3e5a9063d3b84729b0a3310fad3a0942gr09",
  "is_auto_pay" : false
}
```

## Response Parameters

- Normal response

**Table 4-109** Response body parameters

Parameter	Type	Description
job_id	String	ID of the task of changing node class. This parameter is returned only when you change the node class of a pay-per-use instance.
order_id	String	Order ID. This parameter is returned only when you change the node class of a yearly/monthly instance.

## Example Response

- Normal response example

```
{
  "job_id" : "2x414788a5112333a02390e2eb0ea227"
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

# 4.2.18 Obtaining the Instance Group Information

## Function

Obtain DDM instance group information.

## Constraints

None

## URI

- URL format  
GET /v3/{project\_id}/instances/{instance\_id}/groups?  
offset={offset}&limit={limit}
- Parameter description

**Table 4-110** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

**Table 4-111** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.
limit	No	Integer	Maximum records to be queried. Value range: 1 to 128. If the parameter value is not specified, 10 records are obtained by default.

## Request Parameters

**Table 4-112** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

## Example Request

```
GET https://{endpoint}/v3/{project_id}/instances/{instance_id}/groups?offset=null&limit=null
```

## Response Parameters

- Normal response

**Table 4-113** Response body parameters

Parameter	Type	Description
total_count	Integer	Total records
group_list	Array of <a href="#">Table 4-114</a> objects	Instance group information

**Table 4-114** GroupInfo

Parameter	Type	Description
id	String	Group ID
name	String	Group name
role	String	Group role type, which can be read/write or read-only. Returned values: <ul style="list-style-type: none"> <li>● <b>rw</b>: read/write group</li> <li>● <b>r</b>: read-only group</li> </ul>
endpoint	String	Connection address of the group. If load balancing is not enabled, the connection address string of the node in the group is returned.
ipv6_endpoint	String	IPv6 connection address of the group
is_load_balance	Boolean	Whether load balancing is enabled
is_default_group	Boolean	Whether the API group is the default group
cpu_num_per_node	Integer	Number of CPU cores per node
mem_num_per_node	Integer	Memory size per node, in GB
architecture	String	CPU architecture Returned values: <ul style="list-style-type: none"> <li>● <b>x86</b></li> <li>● <b>Arm</b></li> </ul>
node_list	Array of objects (Table 4-115)	Node information list

**Table 4-115** GroupNodeInfo

Parameter	Type	Description
id	String	Node ID
name	String	Node name
az	String	AZ to which the node belongs

## Example Response

- Normal response example

```
{
  "group_list": [
    {
      "id": "****gr09",
      "name": "group-default",
      "role": "rw",
      "endpoint": "****.5066",
      "is_load_balance": true,
      "is_default_group": false,
      "architecture": "X86",
      "cpu_num_per_node": 4,
      "mem_num_per_node": 8,
      "node_list": [
        {
          "id": "****no09",
          "name": "node_01",
          "az": "some_az"
        }
      ]
    }
  ],
  "total_count": 1
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200
- Abnormal

For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.19 Creating an Instance Group

### Function

This API is used to create a DDM instance group.

### Constraints

None

### URI

- URL format  
POST /v3/{project\_id}/instances/{instance\_id}/groups
- Parameter description

**Table 4-116** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-117** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-118** Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Name of a DDM instance group, which: <ul style="list-style-type: none"> <li>• Can include 4 to 64 characters.</li> <li>• Must start with a letter.</li> <li>• Can contain only letters, digits, underscores (_), and hyphens (-).</li> </ul> Minimum characters: <b>4</b> Maximum characters: <b>64</b>
type	Yes	String	Type of the instance group. <b>rw</b> : read/write group <b>r</b> : read-only group
flavor_id	No	String	Flavor ID. (Either the flavor ID or flavor code must be specified.) It can be obtained by referring to <a href="#">Querying DDM Node Classes Available in an AZ</a> .

Parameter	Mandatory	Type	Description
flavor_ref	No	String	Flavor code. (Either the flavor ID or flavor code must be specified.) It can be obtained by referring to <a href="#">Querying DDM Node Classes Available in an AZ</a> .
nodes	Yes	Array of <a href="#">Table NodeInfo</a> objects	Node information list. Minimum value: <b>1</b> Maximum value: <b>32</b>

**Table 4-119** NodeInfo

Parameter	Mandatory	Type	Description
available_zone	Yes	String	AZ where the node is located. The value cannot be empty. For details, see <a href="#">Regions and Endpoints</a> .
subnet_id	Yes	String	Subnet ID.

## Example Request

Create a DDM instance group. The group type is read/write and the number of nodes is 1.

```
POST https://{endpoint}/v3/{project_id}/instances/{instance_id}/groups
{
  "name": "group-1",
  "type": "rw",
  "flavor_id": "a615922f-0ed8-3691-aad4-a595185febba",
  "nodes": [
    {
      "available_zone": "az1",
      "subnet_id": "ead1e945-ca89-45dd-bcce-4a30b2054c22"
    }
  ]
}
```

Create a DDM instance group. The group type is read-only and the number of nodes is 1.

```
POST https://{endpoint}/v3/{project_id}/instances/{instance_id}/groups
{
  "name": "group-2",
  "type": "r",
  "flavor_id": "a615922f-0ed8-3691-aad4-a595185febba",
  "nodes": [
    {
      "available_zone": "az1",
      "subnet_id": "ead1e945-ca89-45dd-bcce-4a30b2054c22"
    }
  ]
}
```

```
]
}
```

Create a DDM instance group. The group type is read/write and the number of nodes is 2.

POST https://{endpoint}/v3/{project\_id}/instances/{instance\_id}/groups

```
{
  "name": "group-3",
  "type": "rw",
  "flavor_id": "a615922f-0ed8-3691-aad4-a595185febba",
  "nodes": [
    {
      "available_zone": "az1",
      "subnet_id": "ead1e945-ca89-45dd-bcce-4a30b2054c22"
    },
    {
      "available_zone": "az2",
      "subnet_id": "ead1e945-ca89-45dd-bcce-4a30b2054c22"
    }
  ]
}
```

## Response Parameters

- Normal response

**Table 4-120** Response body parameters

Parameter	Type	Description
instance_id	String	DDM instance ID.
job_id	String	ID of the job for creating an instance group. This parameter is returned only when pay-per-use instances are created.
order_id	String	Order ID. This parameter is returned only when yearly/monthly instances are created.
group_id	String	Group ID. This parameter is returned only when pay-per-use instances are created.

## Example Response

- Normal response example

Buying a pay-per-use instance:

```
{
  "job_id": "3ae783f3-844e-4051-abd5-b9cc65899785",
  "group_id": "b4153b807b1a4f83870bf868fcc4f4ea****"
}
```

Buying a yearly/monthly instance:

```
{
  "order_id": "CS1810251738L8VVD"
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.20 Deleting an Instance Group

### Function

This API is used to delete a DDM instance group.

### Constraints

None

### URI

DELETE /v3/{project\_id}/instances/{instance\_id}/groups/{group\_id}

**Table 4-121** Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID
group_id	Yes	String	Group ID.

### Request Parameters

None

### Example Request

Deleting a DDM instance group  
DELETE https://{endpoint}/v3/{project\_id}/instances/{instance\_id}/groups/{group\_id}

### Response

- Normal response

**Table 4-122** Response body parameters

Parameter	Type	Description
job_id	String	ID of the job for deleting a group.
order_id	String	Order ID. This parameter is returned only when yearly/monthly instances are deleted.

- Normal response example

Buying a pay-per-use instance:

```
{
  "job_id": "3ae783f3-844e-4051-abd5-b9cc65899785"
}
```

Buying a yearly/monthly instance:

```
{
  "order_id" : "CS1810251738L8VVD"
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Codes

- Normal

202

- Abnormal

For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.21 Querying DDM Engine Information (a V3 API)

### Function

This V3 API is used to query information about DDM engine.

### Constraints

None

### URI

- URL format

GET /v3/{project\_id}/engines?offset={offset}&limit={limit}

- Parameter description

**Table 4-123** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see <a href="#">Obtaining a Project ID</a> .

**Table 4-124** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.
limit	No	Integer	Maximum records to be queried. Value range: 1 to 128. If the parameter value is not specified, 10 records are obtained by default.

## Request Parameters

**Table 4-125** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

## Example Request

Querying DDM engine information

```
GET https://{endpoint}/v3/{project_id}/engines?offset=0&limit=10
```

## Response

- Normal response

**Table 4-126** Response body parameters

Parameter	Type	Description
engine_group_s	Array of <a href="#">EngineGroupInfo</a> objects	Information of available engines
offset	Integer	Which page the server starts returning items
limit	Integer	Number of records displayed on each page
total	Integer	Number of engine versions

**Table 4-127** EngineGroupInfo

Parameter	Type	Description
id	String	Engine ID
name	String	Engine name
version	String	Engine version

- Normal response example

```
{
  "engine_groups": [
    {
      "id": "036dc44a-b560-4316-9e7f-e25a60f2aea2",
      "name": "ddm",
      "version": "3.1.0.8"
    }
  ],
  "offset": 0,
  "limit": 1,
  "total": 3
}
```

- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.22 Querying DDM Node Classes Available in Each AZ (a V3 API)

### Function

This V3 API is used to query DDM node classes available in an AZ.

### Constraints

None

### URI

- URL format

GET /v3/{project\_id}/flavors?  
engine\_id={engine\_id}&offset={offset}&limit={limit}&engine\_version={engine\_version}&available\_zones={available\_zones}

- Parameter description

**Table 4-128** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see <a href="#">Obtaining a Project ID</a> .

**Table 4-129** Query parameters

Parameter	Mandatory	Type	Description
engine_id	No	String	Engine ID, which can be obtained by calling the API for querying DDM engine information. At least one of <b>engine_id</b> and <b>engine_version</b> must be specified.

Parameter	Mandatory	Type	Description
engine_version	No	String	Engine version, which can be obtained by calling the API for querying DDM engine information. At least one of <b>engine_id</b> and <b>engine_version</b> must be specified.
available_zones	No	String	AZs. Use commas (,) to separate multiple AZs, for example, <b>cn-southwest-244a,cn-southwest-244b</b> . The value cannot be empty. For details, see <a href="#">Regions and Endpoints</a> .
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.
limit	No	Integer	Maximum records to be queried. Value range: 1 to 128. If the parameter value is not specified, 10 records are obtained by default.

## Request Parameters

**Table 4-130** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

## Example Request

Querying DDM node classes available in an AZ

```
GET https://{endpoint}/v3/{project_id}/flavors?engine_id=xxxxxx-xxxx-xxxx-
f7ab-100f2cd33008&engine_version=3.x.x.x&available_zones=cn-north-1a,cn-north-1b&offset=0&limit=10
```

## Response

- Normal response

**Table 4-131** Response body parameters

Parameter	Type	Description
flavor_groups	Array of <b>FlavorGroupInfo</b> objects	List of node classes.

**Table 4-132** FlavorGroupInfo

Parameter	Type	Description
flavors	Array of <b>Flavor</b> objects	Node class information.
group_type	String	Compute resource architecture type. The value can be <b>x86</b> or <b>ARM</b> .
offset	Integer	Which page the server starts returning items
limit	Integer	Number of records displayed on each page
total	Integer	Number of engine versions

**Table 4-133** Flavor

Parameter	Type	Description
az_infos	Array of <b>AvailableZone</b> objects	AZ information. The value can be: <b>normal</b> : indicates that the node classes in the AZ are available. <b>unsupported</b> : indicates that the node classes are not supported by the AZ. <b>sellout</b> : indicates that the node classes in the AZ are sold out.
id	String	Specification ID.
spec_code	String	Resource specification code.
vcpus	String	Number of vCPUs. For example, the value <b>1</b> indicates 1 vCPU.
ram	String	Memory size in GB.

**Table 4-134** AvailableZone

Parameter	Type	Description
code	String	AZ code.
description	String	AZ description.
status	String	AZ status.
support_ipv6	Boolean	Whether IPv6 is supported.

- Normal response example

```
{
  "flavor_groups": [
    {
      "offset": 0,
      "limit": 1,
      "total": 4,
      "group_type": "X86",
      "flavors": [
        {
          "id": "xxxxx-xxxx-xxxx-xxxx-xxxxxxxx",
          "spec_code": "ddm.c6.xlarge.2",
          "vcpus": "4",
          "ram": "8",
          "az_infos": [
            {
              "code": "cn-north-7a",
              "status": "normal",
              "description": "AZ 1"
              "support_ipv6": true
            }
          ]
        }
      ]
    }
  ],
  {
    "offset": 0,
    "limit": 1,
    "total": 5,
    "group_type": "ARM",
    "flavors": [
      {
        "id": "xxxxx-xxxx-xxxx-xxxx-xxxxxxxx",
        "spec_code": "ddm.kc1.large.2",
        "vcpus": "2",
        "ram": "4",
        "az_infos": [
          {
            "code": "cn-north-7a",
            "status": "normal",
            "description": "AZ 1"
            "support_ipv6": true
          }
        ]
      }
    ]
  }
]
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.23 Querying Parameters of a Specified DDM Instance

### Function

This API is used to query parameters of a specified DDM instance.

### Constraints

None

### URI

GET /v3/{project\_id}/instances/{instance\_id}/configurations?  
offset={offset}&limit={limit}

**Table 4-135** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

**Table 4-136** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum records to be queried. Value range: 1 to 128. If the parameter value is not specified, 128 nodes are queried by default.

## Request Parameters

**Table 4-137** Request header parameters

Parameter	Mandatory	Type	Description
X-Language	No	String	Language. The value can be <b>zh-cn</b> or <b>en-us</b> . The default value is <b>zh-cn</b> .
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

## Example Request

Querying parameters of a specified DDM instance

```
GET https://{endpoint}/v3/{project_id}/instances/{instance_id}/configurations?offset={offset}&limit={limit}
```

## Response Parameters

- Normal response

**Table 4-138** Response body parameters

Parameter	Type	Description
updated	String	Time when DDM instance parameters are last updated
configuration_parameter	Array of <b>ConfigurationParameterList</b> objects	Information about DDM instance parameters
offset	Integer	Which page the server starts returning items
limit	Integer	Number of records displayed on each page

Parameter	Type	Description
total	Integer	Total collections
id	String	Parameter template ID
name	String	Parameter template name
description	String	Parameter template description

**Table 4-139** ConfigurationParameterList

Parameter	Type	Description
name	String	Parameter name
value	String	Parameter value
need_restart	String	Whether the instance needs to be restarted
read_only	String	Whether the parameter is read-only
value_range	String	Parameter value range
data_type	String	Parameter type.
description	String	Parameter description

## Example Response

- Normal response example

```
{
  "id": "08142a7de30d40549f04fe4757c6660cpr09",
  "name": "ddm_69873de2-072",
  "description": "ParamGroup for instance",
  "updated": "2021-11-09 03:26:52",
  "configuration_parameter": [ {
    "name": "temp_table_size_limit",
    "value": "1000000",
    "need_restart": "0",
    "read_only": "0",
    "value_range": "500000-2000000000",
    "data_type": "integer",
    "description": "Maximum size of the temporary table."
  } ],
  "offset": 0,
  "limit": 128,
  "total": 22
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200

- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.24 Scaling Out a DDM Instance (a V3 API)

### Function

This API is used to scale out a specified DDM instance. Pay-per-use and yearly/monthly instances are all supported.

### Constraints

Make sure that the associated RDS instances are available and not undergoing other operations.

### URI

- URL format  
POST /v3/{project\_id}/instances/{instance\_id}/nodes
- Parameter description

**Table 4-140** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

### Request Parameters

**Table 4-141** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-142** Request body parameters

Parameter	Mandatory	Type	Description
group_id	No	String	Group ID, which specifies the group that is scaled out. This parameter must be specified if there are more than one node group.
subnet_id	No	String	Subnet ID. This parameter is mandatory when there are more than one subnet in the node group.
is_auto_pay	No	Boolean	Whether to automatically pay with your account. This parameter can be specified when nodes are added for a yearly/monthly instance. <ul style="list-style-type: none"> <li><b>true:</b> indicates that the order is automatically paid from the account.</li> <li><b>false:</b> indicates that the order is manually paid from the account. The default value is <b>false</b>.</li> </ul>
nodes	Yes	Array of <a href="#">Table EnlargeNodeInfo</a> objects	Node information list. The list can include at least one node. The list can include a maximum of 32 nodes.

**Table 4-143** EnlargeNodeInfo

Parameter	Mandatory	Type	Description
available_zone	Yes	String	AZ where the node is located. The value cannot be empty. For details, see <a href="#">Regions and Endpoints</a> .

## Example Request

Scaling out a pay-per-use DDM instance. The number of nodes to be added is 1.

```
POST https://{endpoint}/v3/{project_id}/instances/{instance_id}/nodes
{
  "nodes": [
    {
      "available_zone": "az1"
    }
  ]
}
```

```
}
]
```

Scaling out a pay-per-use DDM instance that has more than one group. Each group has multiple subnets. The number of nodes to be added is 1.

```
POST https://{endpoint}/v3/{project_id}/instances/{instance_id}/nodes
{
  "group_id": "efd077a3a50e460c8ba62e1956363299gr09",
  "subnet_id": "ead1e945-ca89-45dd-bcce-4a30b2054c22",
  "nodes": [
    {
      "available_zone": "az1"
    }
  ]
}
```

Scaling out a yearly/monthly DDM instance. The number of nodes to be added is 1, and the order is paid from your account balance.

```
POST https://{endpoint}/v3/{project_id}/instances/{instance_id}/nodes
{
  "is_auto_pay": true,
  "nodes": [
    {
      "available_zone": "az1"
    }
  ]
}
```

## Response

- Normal response

**Table 4-144** Response body parameters

Parameter	Type	Description
job_id	String	ID of a node scale-out task. This parameter is returned only for node scale-out of a pay-per-use instance.
order_id	String	Order ID. This parameter is returned only for node scale-out of a yearly/monthly instance.

- Normal response example

Buying a pay-per-use instance:

```
{
  "job_id": "eff1d289-4d03-4942-8b9f-463ea07c000c"
}
```

Buying a yearly/monthly instance:

```
{
  "order_id": "CS1810251738L8VVD"
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.25 Deleting an Instance (a V3 API)

### Function

This API is used to delete a DDM instance to release all its resources.

### Constraints

Yearly/Monthly instances cannot be deleted.

### URI

- URL format  
DELETE /v3/{project\_id}/instances/{instance\_id}
- Parameter description

**Table 4-145** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

**Table 4-146** Query parameters

Parameter	Mandatory	Type	Description
delete_dn_data	No	Boolean	Whether data stored on the associated DB instances is deleted. This parameter is left empty by default. <b>true:</b> indicates that the data stored on the associated DB instances is deleted. <b>false</b> or leaving this parameter empty: indicates that the data stored on the associated DB instances is not deleted.

## Request

**Table 4-147** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

## Example Request

Deleting an instance (including the data stored on associated DB instances)  
DELETE https://{endpoint}/v3/{project\_id}/instances/{instance\_id}?delete\_dn\_data=true

Deleting an instance (excluding the data stored on associated DB instances)  
DELETE https://{endpoint}/v3/{project\_id}/instances/{instance\_id}?delete\_dn\_data=false

## Response

- Normal response

**Table 4-148** Response body parameters

Parameter	Type	Description
job_id	String	ID of the job for deleting an instance.

- Normal response example

```
{
  "job_id": "eff1d289-xxxx-xxxx-8b9f-463ea07c000c"
}
```

- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.26 Enabling or Disabling SSL (a V3 API)

### Function

This API is used to configure SSL to encrypt connections.

### Constraints

None

### URI

POST /v3/{project\_id}/instances/{instance\_id}/switch-ssl

**Table 4-149** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

### Request Parameters

**Table 4-150** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-151** Request body parameters

Parameter	Mandatory	Type	Description
ssl_enabled	Yes	Boolean	<b>true:</b> SSL is enabled. <b>false:</b> SSL is disabled.

## Example Request

Enabling SSL

```
POST https://{endpoint}/v3/{project_id}/instances/{instance_id}/switch-ssl
{
  "ssl_enabled": true
}
```

## Response Parameters

- Normal response

**Table 4-152** Response body parameters

Parameter	Type	Description
job_id	String	Job ID.

## Example Response

- Normal response example
 

```
{
  "job_id": "9fe84a77-6a6b-4b03-9a3e-db910a548657"
}
```
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.27 Changing an Instance Port

### Function

This API is used to change an instance port.

### Constraints

None

### URI

PUT /v3/{project\_id}/instances/{instance\_id}/port

**Table 4-153** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

### Request Parameters

**Table 4-154** Request body parameters

Parameter	Mandatory	Type	Description
port	Yes	Integer	Port number

### Example Request

```
Changing an instance port to 5067
POST https://{endpoint}/v3/{project_id}/instances/{instance_id}/port
{
  "port" : 5067
}
```

### Response Parameters

- Normal response

**Table 4-155** Response body parameters

Parameter	Type	Description
job_id	String	Job ID

## Example Response

- Normal response example
 

```
{
  "job_id" : "9fe84a77-6a6b-4b03-9a3e-db910a548657"
}
```
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.28 Restarting an Instance (a V3 API)

### Function

This API is used to restart a specific instance.

### Constraints

None

### URI

POST /v3/{project\_id}/instances/{instance\_id}/restart

**Table 4-156** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-157** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

## Example Request

Whether to restart the instance.

```
POST https://{endpoint}/v3/{project_id}/instances/{instance_id}/restart
```

## Response Parameters

- Normal response

**Table 4-158** Response body parameters

Parameter	Type	Description
job_id	String	Job ID

## Example Response

- Normal response example
 

```
{
  "job_id" : "9fe84a77-6a6b-4b03-9a3e-db910a548657"
}
```
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.29 Restarting a Node

### Function

This API is used to restart a specific node.

### Constraints

None

### URI

POST /v3/{project\_id}/instances/{instance\_id}/nodes/{node\_id}/restart

**Table 4-159** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID
node_id	Yes	String	DDM instance node ID

### Request Parameters

None

### Example Request

Restarting a node

```
POST https://{endpoint}/v3/{project_id}/instances/{instance_id}/nodes/{node_id}/restart
```

### Response Parameters

- Normal response

**Table 4-160** Response body parameters

Parameter	Type	Description
job_id	String	Job ID

### Example Response

- Normal response example

```
{
  "job_id" : "9fe84a77-6a6b-4b03-9a3e-db910a548657"
}
```

- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.30 Binding an EIP

### Function

This API is used to bind an EIP.

### Constraints

None

### URI

POST /v3/{project\_id}/instances/{instance\_id}/eip

**Table 4-161** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request

**Table 4-162** Request body parameters

Parameter	Mandatory	Type	Description
public_ip	Yes	String	EIP to be bound. The value must be in the standard IP address format.
public_ip_id	Yes	String	EIP ID. The value must be in the standard UUID format.

## Example Request

Binding an EIP to an instance

```
POST https://{endpoint}/v3/{project_id}/instances/{instance_id}/eip
{
  "public_ip": "10.83.84.176",
  "public_ip_id": "7c87996a-85f4-4029-a254-502999d4767a"
}
```

## Response Parameters

- Normal response

**Table 4-163** Response body parameters

Parameter	Type	Description
job_id	String	Job ID

## Example Response

- Normal response example

```
{
  "job_id": "9fe84a77-6a6b-4b03-9a3e-db910a548657"
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Codes

- Normal

202

- Abnormal

For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.31 Unbinding an EIP

### Function

This API is used to unbind an EIP from an instance.

### Constraints

None

### URI

DELETE /v3/{project\_id}/instances/{instance\_id}/eip

**Table 4-164** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

### Request

**Table 4-165** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

### Example Request

Unbinding an EIP from an instance

```
DELETE https://{endpoint}/v3/{project_id}/instances/{instance_id}/eip
```

### Response Parameters

- Normal response

**Table 4-166** Response body parameters

Parameter	Type	Description
job_id	String	Job ID

- Normal response example
 

```
{
  "job_id" : "9fe84a77-6a6b-4b03-9a3e-db910a548657"
}
```
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.32 Changing the ELB Load Balancer IP Address of an Instance

### Function

This API is used to change the ELB load balancer IP address of an instance.

### Constraints

None

### URI

PUT /v3/{project\_id}/instances/{instance\_id}/elb/ip

**Table 4-167** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-168** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-169** Request body parameters

Parameter	Mandatory	Type	Description
new_ip	Yes	String	New ELB load balancer IP address.
group_id	No	String	Instance group ID. If there is only one instance group, this parameter can be left empty.

## Example Request

Changing an ELB load balancer IP address  
 PUT https://{endpoint}/v3/{project\_id}/instances/{instance\_id}/elb/ip  
 {  
 "new\_ip": "172.16.192.208",  
 "group\_id": "ee8f0a088ec3408880ef1971a96431ecgr09"  
 }

## Response Parameters

- Normal response

**Table 4-170** Response body parameters

Parameter	Type	Description
job_id	String	Job ID

## Example Response

- Normal response example  

```
{
  "job_id": "9fe84a77-6a6b-4b03-9a3e-db910a548657"
}
```
- Abnormal response  
 For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.33 Deleting Nodes from an Instance

### Function

This API is used to delete nodes from an instance.

### Constraints

Nodes in different groups cannot be deleted at the same time.

### URI

DELETE /v3/{project\_id}/instances/{instance\_id}/nodes

**Table 4-171** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

### Request Parameters

**Table 4-172** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-173** Request body parameters

Parameter	Mandatory	Type	Description
node_ids	Yes	Array of strings	ID list of nodes to be deleted. Only nodes in the same group can be selected. After a specified node is deleted from a group, there must be at least one node in the group.

## Example Request

Deleting nodes

```
DELETE https://{endpoint}/v3/{project_id}/instances/{instance_id}/nodes
{
  "node_ids": ["116ba14da45678d28ecd83a38c218907no02"]
}
```

## Response Parameters

- Normal response

**Table 4-174** Response body parameters

Parameter	Type	Description
job_id	String	Job ID.
order_id	String	Order ID. This parameter is returned only when nodes of a yearly/monthly instance are deleted.

- Normal response example

```
{
  "job_id": "9fe84a77-6a6b-4b03-9a3e-db910a548657"
}
```

Buying a yearly/monthly instance:

```
{
  "order_id": "CS1810251738L8VVD"
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202

- Abnormal

For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.34 Querying Details About an Instance Node (a V3 API)

### Function

This API is used to query details about an instance node.

### Constraints

None

### URI

GET /v3/{project\_id}/instances/{instance\_id}/nodes/{node\_id}

**Table 4-175** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID
node_id	Yes	String	Node ID

### Request Parameters

**Table 4-176** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

### Example Request

Querying details about an instance node

GET https://{endpoint}/v3/{project\_id}/instances/{instance\_id}/nodes/{node\_id}

## Response Parameters

- Normal response

**Table 4-177** Response body parameters

Parameter	Type	Description
status	String	Node status. For details, see <a href="#">DDM Node Status</a> .
name	String	Node name
id	String	Node ID
private_ip	String	Private IP address of the node
group_id	String	Group ID
az_code	String	AZ
subnet_id	String	Subnet ID.

## Example Response

- Normal response example

```
{
  "id": "8d5601f17b30****da1e69181173cdno09",
  "private_ip": "172.16.203.68",
  "status": "normal",
  "name": "ddm-ag****de2_node_01",
  "subnet_id": "d27cdc75****b6-b2ab-fec93af33538",
  "az_code": "cn-southwest-244a",
  "group_id": "148a54****41ba6ed231487e73ccgr09"
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Code

- Normal

200

- Abnormal

For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.35 Changing an Instance Name (a V3 API)

### Function

This API is used to change the name of an instance.

## Constraints

None

## API Calling

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

## Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm:instance:updateName	Write	instance*	<ul style="list-style-type: none"> <li>• g:EnterpriseProjectId</li> <li>• g:ResourceTag/&lt;tag-key&gt;</li> </ul>	ddm:instance:modify	-

## URI

PUT /v3/{project\_id}/instances/{instance\_id}/name

**Table 4-178** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region. For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 32 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>
instance_id	Yes	String	<p><b>Definition</b> Instance ID, which uniquely identifies an instance.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in09</b>. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

## Request Parameters

**Table 4-179** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	<p><b>Definition</b> User token.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

**Table 4-180** Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	<p><b>Definition</b> Instance name</p> <p><b>Constraints</b></p> <ul style="list-style-type: none"> <li>• The name can include 4 to 64 characters.</li> <li>• The name must start with a letter.</li> <li>• The name can contain only letters, digits, underscores (_), and hyphens (-).</li> </ul> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

## Example Request

Changing an instance name

```
PUT https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/61a4ea66210545909d74a05c27a7179ein09/name
```

```
{
  "name" : "ddm-test"
}
```

## Response Parameters

- Normal response

**Table 4-181** Response body parameters

Parameter	Type	Description
job_id	String	<b>Definition</b> Workflow ID. <b>Range</b> N/A

## Example Response

- Normal response example
 

```
{
  "job_id" : "0b063c71-364f-4012-95c9-576dfedf350"
}
```
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.36 Changing the Security Group of an Instance (a V3 API)

### Function

This API is used to change the security group of an instance.

### Constraints

None

### API Calling

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

### Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm:instance:updateSecurityGroup	Write	instance*	<ul style="list-style-type: none"> <li>• g:EnterpriseProjectId</li> <li>• g:ResourceTag/&lt;tag-key&gt;</li> </ul>	ddm:instance:modify	-

## URI

PUT /v3/{project\_id}/instances/{instance\_id}/security-group

**Table 4-182** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region. For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 32 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

Parameter	Mandatory	Type	Description
instance_id	Yes	String	<p><b>Definition</b> Instance ID, which uniquely identifies an instance.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in09</b>. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

## Request Parameters

**Table 4-183** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	<p><b>Definition</b> User token.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

**Table 4-184** Request body parameters

Parameter	Mandatory	Type	Description
security_group_id	Yes	String	<p><b>Definition</b> Security group ID</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

## Example Request

Changing the security group of an instance

```
PUT https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/  
61a4ea66210545909d74a05c27a7179ein09/security-group  
  
{  
  "security_group_id" : "035b70ed-319b-4086-9fd7-62a2e8548b2e"  
}
```

## Response Parameters

None

## Example Response

- Normal response example  
 {}
- Abnormal response  
 For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
 200
- Abnormal  
 For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.37 Reloading Table Data (a V3 API)

### Function

This API is used to reload table data.

### Constraints

None

### API Calling

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

### Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).

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

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm:instance:reload	Write	instance*	<ul style="list-style-type: none"> <li>g:EnterpriseProjectId</li> <li>g:ResourceTag/&lt;tag-key&gt;</li> </ul>	ddm:instance:modify	-

## URI

POST /v3/{project\_id}/instances/{instance\_id}/reload-config

**Table 4-185** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region. For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 32 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

Parameter	Mandatory	Type	Description
instance_id	Yes	String	<p><b>Definition</b> Instance ID, which uniquely identifies an instance.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in09</b>. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

## Request Parameters

**Table 4-186** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	<p><b>Definition</b> User token.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

## Response Parameters

None

## Example Request

Reloading table data

```
POST https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/61a4ea66210545909d74a05c27a7179ein09/reload-config
{ }
```

## Example Response

- Normal response example

```
{ }
```

- Abnormal response  
For details, see [Abnormal Request Results](#).

### Status Code

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

### Error Codes

For details, see [Error Codes](#).

## 4.2.38 Checking RDS Connectivity (a V3 API)

### Function

This API is used to check the RDS connectivity.

### Constraints

None

### API Calling

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

### Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm:instance:checkDataNodeConnection	Read	instance*	<ul style="list-style-type: none"> <li>g:EnterpriseProjectId</li> <li>g:ResourceTag/&lt;tag-key&gt;</li> </ul>	ddm:instance:list	-

## URI

POST /v3/{project\_id}/instances/{instance\_id}/rds/connection

**Table 4-187** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region. For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 32 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>
instance_id	Yes	String	<p><b>Definition</b> Instance ID, which uniquely identifies an instance.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in09</b>. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

## Request Parameters

**Table 4-188** Request body parameters

Parameter	Mandatory	Type	Description
infos	Yes	Array of <a href="#">EsdbCheckRdsConnectionRequestV3</a> objects	<p><b>Definition</b> A collection of information related to checking RDS connectivity.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

**Table 4-189** EsdbCheckRdsConnectionRequestV3

Parameter	Mandatory	Type	Description
endpoint	Yes	String	<p><b>Definition</b> Private IP address and database port of the RDS instance. The format is <i>xx.xx.xx.xx:xx</i>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>
username	Yes	String	<p><b>Definition</b> RDS account.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

Parameter	Mandatory	Type	Description
password	Yes	String	<p><b>Definition</b> RDS account password.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>
rds_instance_id	Yes	String	<p><b>Definition</b> RDS instance ID, which uniquely identifies the instance.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in01</b>. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

## Example Request

Checking RDS connectivity

```
POST https://{endpoint}/v3/a8e2a5e2a6xxxxxxxxx5af5b9ddabe5/instances/
b7eabbbc6bxxxxxxxxadfffa99a7c2in09/rds/connection
```

```
{
  "infos": [ {
    "endpoint": "****.***.***.***.***",
    "username": "root",
    "password": "*****",
    "rds_instance_id": "b944d6e9a8xxxxxxxx74e257b83c84in01"
  } ]
}
```

## Response Parameters

- Normal response

**Table 4-190** Response body parameters

Parameter	Type	Description
rds_check_infos	Array of <a href="#">CheckRdsConnectionResqVO</a> objects	<p><b>Definition</b> A collection of information related to the RDS connectivity test.</p> <p><b>Range</b> N/A</p>

**Table 4-191** CheckRdsConnectionResqVO

Parameter	Type	Description
rds_instance_id	String	<p><b>Definition</b> RDS instance ID, which uniquely identifies the instance.</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in09</b>. Only letters and digits are allowed.</p>
success	String	<p><b>Definition</b> Whether the connection is successful.</p> <p><b>Range</b></p> <ul style="list-style-type: none"> <li>• <b>true</b>: The RDS connectivity test passed.</li> <li>• <b>false</b>: The RDS connectivity test failed.</li> </ul>
error_code	String	<p><b>Definition</b> Error code of the connectivity check failure.</p> <p><b>Range</b> N/A</p>
error_message	String	<p><b>Definition</b> Cause of the connectivity check failure.</p> <p><b>Range</b> N/A</p>

## Example Response

- Normal response example

```
{
  "rds_check_info" : [ {
    "rds_instance_id" : "b3110ddff4xxxxxxxxx7f2b752cd2a70in01",
    "success" : "true",
```

```
"error_code" : null,  
"error_message" : null  
}]  
}
```

- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.39 Setting an Instance to Read-Only

### Function

This API is used to set an instance to read-only.

### Constraints

- After an instance is set to read-only, newly created schemas still support read and write operations. You need to set the instance to read-only again.
- When an instance is set to read-only, its schema SQL blacklist cannot be modified. You can manually delete the schema SQL blacklist to cancel the read-only status.

### API Calling

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

### Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm:instance:setReadOnly	Write	instance*	<ul style="list-style-type: none"> <li>g:EnterpriseProjectId</li> <li>g:ResourceTag/&lt;tag-key&gt;</li> </ul>	ddm:instance:modify	-

## URI

PUT /v3/{project\_id}/instances/{instance\_id}/readonly-status

**Table 4-192** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region. For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 32 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

Parameter	Mandatory	Type	Description
instance_id	Yes	String	<p><b>Definition</b> Instance ID, which uniquely identifies an instance.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in09</b>. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

## Request Parameters

**Table 4-193** Request body parameters

Parameter	Mandatory	Type	Description
readonly	Yes	Boolean	<p><b>Definition</b> Whether the instance is set to read-only.</p> <ul style="list-style-type: none"> <li>• <b>true</b>: The instance is set to read-only.</li> <li>• <b>false</b>: The read-only status is canceled.</li> </ul> <p><b>Constraints</b> N/A</p> <p><b>Range</b> <b>true</b> or <b>false</b></p> <p><b>Default Value</b> N/A</p>

## Example Request

Setting an instance to read-only

```
PUT https://{endpoint}/v3/a8e2a5e2a6xxxxxxxxx5af5b9ddabe5/instances/849c450a43xxxxxxxxxf33cff5f0717pr09/readonly-status
```

```
{
  "readonly": true
}
```

## Response Parameters

- Normal response

**Table 4-194** Response body parameters

Parameter	Type	Description
job_id	String	<b>Definition</b> Workflow ID. <b>Range</b> N/A

## Example Response

- Normal response example

```
{  
  "job_id" : "075fabcf-c4f0-4dc3-a734-65449f5cd277"  
}
```
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.40 Querying TMLog Information

### Function

This API is used to query TMLog information.

TMLogs record XA transaction information to support transaction recovery.

### Constraints

None

### API Calling

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

## Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm:instance:getTmlogs	Read	instance*	<ul style="list-style-type: none"> <li>• g:EnterpriseProjectId</li> <li>• g:ResourceTag/&lt;tag-key&gt;</li> </ul>	-	-

## URI

GET /v3/{project\_id}/instances/{instance\_id}/tmlogs

**Table 4-195** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region. For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 32 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

Parameter	Mandatory	Type	Description
instance_id	Yes	String	<p><b>Definition</b> Instance ID, which uniquely identifies an instance.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in09</b>. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

**Table 4-196** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	<p><b>Definition</b> Index offset.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value is greater than or equal to 0.</p> <p><b>Default Value</b> The default value is <b>0</b>.</p>
limit	No	Integer	<p><b>Definition</b> Number of records to be queried.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value is greater than <b>0</b> and less than or equal to <b>128</b>.</p> <p><b>Default Value</b> The default value is <b>10</b>.</p>

## Request Parameters

**Table 4-197** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	<b>Definition</b> User token. <b>Constraints</b> N/A <b>Range</b> N/A <b>Default Value</b> N/A

## Example Request

Querying TMLog information

```
GET https://{endpoint}/v3/a8e2a5e2a6xxxxxxxxx5af5b9ddabe5/instances/
b7eabbbc6bxxxxxxxxxadffa99a7c2in09/tmlogs
```

## Response Parameters

- Normal response

**Table 4-198** Response body parameters

Parameter	Type	Description
tmlogs	Array of <b>TmlogInfo</b> objects	TMLog information list.
total	Integer	Total number of TMLog nodes that are found.

**Table 4-199** TmlogInfo

Parameter	Type	Description
node_id	String	Node ID
file_list	Array of strings	Compressed files
tmlog_size	Number	TMLog file size, in MB.

## Example Response

- Normal response example

```
{
  "tmlogs": [ {
    "node_id": "d768e14643xxxxxxxxxxxx692dcfa5no09",
    "file_list": [ ],
    "tmlog_size": 0
  }, {
    "node_id": "3422de7fc5xxxxxxxxxxxxd9a7f675no09",
    "file_list": [ ],
    "tmlog_size": 0
  } ],
  "total": 2
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200

- Abnormal

For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.2.41 Moving a TMLog File

### Function

This API is used to move a TMLog file.

Compress and move a TMLog file to a backup directory.

### Constraints

None

### API Calling

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

### Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm:instance:moveTmlogs	Write	instance*	<ul style="list-style-type: none"> <li>g:EnterpriseProjectId</li> <li>g:ResourceTag/&lt;tag-key&gt;</li> </ul>	ddm:instance:modify	-

## URI

POST /v3/{project\_id}/instances/{instance\_id}/tmlogs

**Table 4-200** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region. For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 32 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

Parameter	Mandatory	Type	Description
instance_id	Yes	String	<p><b>Definition</b> Instance ID, which uniquely identifies an instance.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in09</b>. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

## Request Parameters

**Table 4-201** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	<p><b>Definition</b> User token.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

**Table 4-202** Request body parameters

Parameter	Mandatory	Type	Description
node_ids	Yes	Array of strings	Node ID list.

## Example Request

Moving a TMLog file

```
POST https://{endpoint}/v3/a8e2a5e2a6xxxxxxxxx5af5b9ddabe5/instances/
b7eabbc6bxxxxxxxxxadffa99a7c2in09/tmlogs
```

```
{  
  "node_ids" : [ "d768e14643xxxxxxxxxxxx692dcfa5no09", "3422de7fc5xxxxxxxxxxxxd9a7f675no09" ]  
}
```

## Response Parameters

- Normal response

**Table 4-203** Response body parameters

Parameter	Type	Description
job_id	String	Job ID.

## Example Response

- Normal response example  

```
{  
  "job_id" : "24xxx04-xxx-xxx-c65xxx857c9"  
}
```
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

# 4.3 Schemas

## 4.3.1 Creating a Schema

### Function

This API is used to create a schema.

### Constraints

Before creating a schema, ensure that you have associated RDS instances with your DDM instance and that the RDS instances are not associated with other DDM instances.

## URI

POST /v1/{project\_id}/instances/{instance\_id}/databases

**Table 4-204** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-205** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-206** Request body parameters

Parameter	Mandatory	Type	Description
databases	Yes	Array of <a href="#">CreateDatabaseDetail</a> objects	Schema information

**Table 4-207** CreateDatabaseDetail

Parameter	Mandatory	Type	Description
name	Yes	String	<p>Schema name, which:</p> <ul style="list-style-type: none"> <li>• Can include 2 to 48 characters.</li> <li>• Must start with a letter.</li> <li>• Contains only lowercase letters, digits, and underscores (_).</li> <li>• Cannot contain keywords <b>information_schema</b>, <b>mysql</b>, <b>performance_schema</b>, or <b>sys</b>.</li> </ul> <p>Minimum length: 2 characters Maximum length: 48 characters</p>
shard_mode	Yes	String	<p>Sharding mode of the schema. The value can be:</p> <ul style="list-style-type: none"> <li>• <b>cluster</b>: indicates that the schema is in sharded mode.</li> <li>• <b>single</b>: indicates that the schema is in unsharded mode.</li> </ul> <p>Enumerated values:</p> <ul style="list-style-type: none"> <li>• <b>cluster</b></li> <li>• <b>single</b></li> </ul>
shard_number	Yes	Integer	<p>Number of shards in the same working mode</p> <ul style="list-style-type: none"> <li>• If <b>shard_unit</b> is not empty, the value is the product of <b>shard_unit</b> multiplied by the associated RDS instances.</li> <li>• If <b>shard_unit</b> is left blank, the value must be greater than the number of associated RDS instances and less than or equal to the product of the associated RDS instances multiplied by 64.</li> </ul>

Parameter	Mandatory	Type	Description
shard_unit	No	Integer	Number of shards per RDS instance This parameter is optional. <ul style="list-style-type: none"> <li>The value is <b>1</b> if the schema is unsharded.</li> <li>The value ranges from <b>1</b> to <b>64</b> if the schema is sharded.</li> </ul> Minimum value: <b>1</b> Maximum value: <b>64</b>
used_rds	Yes	Array of <a href="#">Table 4-208</a> objects	RDS instances associated with the schema

**Table 4-208** DatabaseInstabcesParam

Parameter	Mandatory	Type	Description
id	Yes	String	ID of the RDS instance associated with the schema
adminUser	Yes	String	Username for logging in to the associated RDS instance
adminPasswo rd	Yes	String	Password for logging in to the associated RDS instance

## Response Parameters

Status code: 200

**Table 4-209** Response body parameters

Parameter	Type	Description
databases	Array of <a href="#">CreateDatab aseDetailRes ponses</a> objects	Schema information

**Table 4-210** CreateDatabaseDetailResponses

Parameter	Type	Description
name	String	Schema name

**Status code: 400**

**Table 4-211** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-212** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Creating a schema and associating it with an existing DDM account

POST https://{endpoint}/v1/{project\_id}/instances/{instance\_id}/databases

```
{
  "databases": [ {
    "name": "mytestdb",
    "shard_mode": "cluster",
    "shard_number": 8,
    "shard_unit": 8,
    "used_rds": [ {
      "id": "f296c394f13f48449d715bf99af07e59in01",
      "adminUser": "root",
      "adminPassword": "xxxxxx"
    } ]
  } ]
}
```

## Example Response

**Status code: 200**

OK

```
{  
  "databases" : [ {  
    "name" : "mytestdb"  
  } ]  
}
```

**Status code: 400**

Bad request

```
{  
  "externalMessage" : "Parameter error.",  
  "errCode" : "DBS.280001"  
}
```

**Status code: 500**

Server error

```
{  
  "externalMessage" : "Server failure.",  
  "errCode" : "DBS.200412"  
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.3.2 Querying Schemas

### Function

This API is used to query schemas of a DDM instance.

### Constraints

None

### URI

GET /v1/{project\_id}/instances/{instance\_id}/databases?  
offset={offset}&limit={limit}

**Table 4-213** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

**Table 4-214** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.
limit	No	Integer	Maximum schemas to be queried. Value range: 1 to 128. If the parameter value is not specified, 128 nodes are queried by default.

## Request Parameters

**Table 4-215** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

## Response Parameters

**Status code: 200**

**Table 4-216** Response body parameters

Parameter	Type	Description
databases	Array of <a href="#">GetDatabaseInfo</a> objects	Schema information
total	Integer	Total records

**Table 4-217** GetDatabaseInfo

Parameter	Type	Description
name	String	Schema name
shard_mode	String	Sharding mode of the schema <ul style="list-style-type: none"> <li>• <b>cluster</b>: indicates that the schema is in sharded mode.</li> <li>• <b>single</b>: indicates that the schema is in unsharded mode.</li> </ul>
shard_number	Integer	Number of shards in the same working mode
status	String	Schema status
created	Long	Time when the schema was created
used_rds	Array of <a href="#">GetDatabaseUsedRds</a> objects	RDS instances associated with the schema
shard_unit	Integer	Number of shards per RDS instance

**Table 4-218** GetDatabaseUsedRds

Parameter	Type	Description
id	String	Node ID of the associated RDS instance
name	String	Name of the associated RDS instance
status	String	Status of the associated RDS instance
error_msg	String	Response message. This parameter is not returned if no abnormality occurs.

**Status code: 400**

**Table 4-219** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-220** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Querying schemas

```
GET https://{endpoint}/v1/{project_id}/instances/{instance_id}/databases?offset={offset}&limit={limit}
```

## Example Response

**Status code: 200**

OK

```
{
  "databases": [ {
    "status": "RUNNING",
    "created": 1642063713625,
    "name": "mytestdb170",
    "shard_mode": "cluster",
    "shard_number": 8,
    "shard_unit": 8,
    "used_rds": [ {
      "id": "c6f68fed9e74478c8679479a07d7d568in01",
      "status": "normal",
      "name": "rds-test"
    } ]
  } ],
  "total": 172
}
```

**Status code: 400**

Bad request

```
{
  "externalMessage": "Parameter error.",
  "errCode": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "externalMessage" : "Server failure.",
  "errCode" : "DBS.200412"
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.3 Querying Details of a Schema

#### Function

This API is used to query details about a schema.

#### Constraints

None

#### URI

GET /v1/{project\_id}/instances/{instance\_id}/databases/{ddm\_dbname}

**Table 4-221** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID
ddm_dbname	Yes	String	Name of the schema to be queried, which is case-insensitive

## Request Parameters

**Table 4-222** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

## Response Parameters

Status code: 200

**Table 4-223** Response body parameters

Parameter	Type	Description
database	<a href="#">GetDatabaseResponseBean</a> object	Schema information

**Table 4-224** GetDatabaseResponseBean

Parameter	Type	Description
name	String	Schema name
created	Long	Time when the schema was created. The value is a UNIX timestamp, in milliseconds.
status	String	Schema status
updated	Long	Time when the schema is last updated. The value is a UNIX timestamp, in milliseconds.
databases	Array of <a href="#">GetDatabaseBeans</a> objects	Sharding information of the schema
shard_mode	String	Sharding mode of the schema <ul style="list-style-type: none"> <li><b>cluster</b>: indicates that the schema is in sharded mode.</li> <li><b>single</b>: indicates that the schema is in unsharded mode.</li> </ul>
shard_number	Integer	Number of shards in the same working mode
shard_unit	Integer	Number of shards per RDS instance

Parameter	Type	Description
dataVips	Array of strings	IP address and port number for connecting to the schema
used_rds	Array of <a href="#">GetDatabaseUsedRds</a> objects	Associated RDS instances

**Table 4-225** GetDatabases

Parameter	Type	Description
dbslot	Integer	Number of shards
name	String	Shard name
status	String	Schema status
created	Long	Creation time. The value is a UNIX timestamp, in milliseconds.
updated	Long	Last update time. The value is a UNIX timestamp, in milliseconds.
id	String	ID of the RDS instance where the shard is located
idName	String	Name of the physical database

**Table 4-226** GetDatabaseUsedRds

Parameter	Type	Description
id	String	Node ID of the associated RDS instance
name	String	Name of the associated RDS instance
status	String	Status of the associated RDS instance
error_msg	String	Response message. This parameter is not returned if no abnormality occurs.

**Status code: 400**

**Table 4-227** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-228** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Querying details of a schema

```
GET https://{endpoint}/v1/{project_id}/instances/{instance_id}/databases/{ddm_dbname}
```

## Example Response

**Status code: 200**

OK

```
{
  "database": {
    "name": "db_7567",
    "created": "1604631243234",
    "status": "RUNNING",
    "updated": "1604631243234",
    "databases": [ {
      "id": "e70a82534a364492b795c5080e3a1591in01",
      "name": "db_7567_0000",
      "idName": "db_7567_0000",
      "dbslot": 0,
      "status": "RUNNING",
      "created": 1604631243234,
      "updated": 1604631243234
    }, {
      "id": "e70a82534a364492b795c5080e3a1591in01",
      "name": "db_7567_0001",
      "idName": "db_7567_0001",
      "dbslot": 1,
      "status": "RUNNING",
      "created": 1604631243234,
      "updated": 1604631243234
    }, {
      "id": "e70a82534a364492b795c5080e3a1591in01",
      "name": "db_7567_0002",
      "idName": "db_7567_0002",

```

```

"dbslot" : 2,
"status" : "RUNNING",
"created" : 1604631243234,
"updated" : 1604631243234
}, {
  "id" : "e70a82534a364492b795c5080e3a1591in01",
  "name" : "db_7567_0003",
  "idName" : "db_7567_0003",
  "dbslot" : 3,
  "status" : "RUNNING",
  "created" : 1604631243234,
  "updated" : 1604631243234
}, {
  "id" : "e70a82534a364492b795c5080e3a1591in01",
  "name" : "db_7567_0004",
  "idName" : "db_7567_0004",
  "dbslot" : 4,
  "status" : "RUNNING",
  "created" : 1604631243234,
  "updated" : 1604631243234
}, {
  "id" : "e70a82534a364492b795c5080e3a1591in01",
  "name" : "db_7567_0005",
  "idName" : "db_7567_0005",
  "dbslot" : 5,
  "status" : "RUNNING",
  "created" : 1604631243234,
  "updated" : 1604631243234
}, {
  "id" : "e70a82534a364492b795c5080e3a1591in01",
  "name" : "db_7567_0006",
  "idName" : "db_7567_0006",
  "dbslot" : 6,
  "status" : "RUNNING",
  "created" : 1604631243234,
  "updated" : 1604631243234
}, {
  "id" : "e70a82534a364492b795c5080e3a1591in01",
  "name" : "db_7567_0007",
  "idName" : "db_7567_0007",
  "dbslot" : 7,
  "status" : "RUNNING",
  "created" : 1604631243234,
  "updated" : 1604631243234
}
],
"shard_mode" : "cluster",
"shard_number" : 8,
"shard_unit" : 8,
"dataVips" : [
  "192.168.185.97:5066"
],
"used_rds" : [ {
  "id" : "e70a82534a364492b795c5080e3a1591in01",
  "name" : "rds-5338",
  "status" : "normal"
}
]
}
}

```

**Status code: 400**

Bad request

```

{
  "externalMessage" : "Parameter error.",
  "errCode" : "DBS.280001"
}

```

**Status code: 500**

Server error

```
{
  "externalMessage" : "Server failure.",
  "errCode" : "DBS.200412"
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.3.4 Deleting a Schema

### Function

This API is used to delete a schema to release all its resources.

### Constraints

None

### URI

DELETE /v1/{project\_id}/instances/{instance\_id}/databases/{ddm\_dbname}?  
delete\_rds\_data={delete\_rds\_data}

**Table 4-229** Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID
ddm_dbname	Yes	String	Name of the schema to be queried, which is case-insensitive

**Table 4-230** Query parameters

Parameter	Mandatory	Type	Description
delete_rds_data	No	String	<p>Whether data stored on the associated DB instances is deleted. The value can be:</p> <ul style="list-style-type: none"> <li>• <b>true</b>: indicates that the data stored on the associated DB instances is deleted.</li> <li>• <b>false</b>: indicates that the data stored on the associated DB instances is not deleted. It is left blank by default.</li> </ul> <p>Enumerated values:</p> <ul style="list-style-type: none"> <li>• <b>true</b></li> <li>• <b>false</b></li> </ul>

## Request Parameters

**Table 4-231** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	<p>User token</p> <p>You can obtain the token by calling the IAM API used to obtain a user token.</p>

## Response Parameters

**Status code: 400**

**Table 4-232** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-233** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

- Deleting a schema (including the data stored on associated DB instances)  
DELETE https://{endpoint}/v1/{project\_id}/instances/{instance\_id}/databases/{ddm\_dbname}?delete\_rds\_data=true
- Deleting a schema (excluding the data stored on associated DB instances)  
DELETE https://{endpoint}/v1/{project\_id}/instances/{instance\_id}/databases/{ddm\_dbname}?delete\_rds\_data=false

## Example Response

**Status code: 200**

OK

```
{ }
```

**Status code: 400**

bad request

```
{
  "externalMessage" : "Parameter error.",
  "errCode" : "DBS.280001"
}
```

**Status code: 500**

server error

```
{
  "externalMessage" : "Server failure.",
  "errCode" : "DBS.200412"
}
```

## Status Codes

Status Code	Description
200	OK
400	bad request
500	server error

## Error Codes

For details, see [Error Codes](#).

## 4.3.5 Querying DB Instances Available for Creating a Schema

### Function

This API is used to query DB instances that can be used for creating a schema.

### Constraints

None

### URI

GET /v1/{project\_id}/instances/{instance\_id}/rds?offset={offset}&limit={limit}

**Table 4-234** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

**Table 4-235** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.
limit	No	Integer	Maximum instances to be queried. Value range: 1 to 128. If the parameter value is not specified, 128 nodes are queried by default.

## Request Parameters

**Table 4-236** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

## Response Parameters

Status code: 200

**Table 4-237** Response body parameters

Parameter	Type	Description
instances	Array of <a href="#">QueryAvailableRdsList</a> objects	DB instances that can be used for creating a schema
offset	Integer	Which page the server starts returning items
limit	Integer	Number of records displayed on each page
total	Integer	Total collections

**Table 4-238** QueryAvailableRdsList

Parameter	Type	Description
id	String	DB instance ID
projectId	String	Project ID of the tenant that the DB instance belongs to
status	String	DB instance status
name	String	DB instance name
engineName	String	Engine name of the DB instance
engineSoftwareVersion	String	Engine version of the DB instance
privateIp	String	Private IP address for connecting to the DB instance

Parameter	Type	Description
mode	String	DB instance type (primary/standby or single-node)
port	Integer	Port for connecting to the DB instance
azCode	String	AZ
timeZone	String	Time zone

**Status code: 400**

**Table 4-239** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-240** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Querying DB instances available for creating a schema

```
GET https://{endpoint}/v1/{project_id}/instances/{instance_id}/rds?offset={offset}&limit={limit}
```

## Example Response

**Status code: 200**

OK

```
{
  "instances": [ {
    "id": "c6f68fed9e74478c8679479a07d7d568in01",
    "projectId": "055d9f4ee780d4d42f96c01c1bc3c50c",
    "status": "normal",
    "name": "test-ddm-no-delete-test01-00",
    "engineName": "mysql",
```

```

"engineSoftwareVersion" : 5.7,
"privateIp" : "192.168.23.97",
"mode" : "Ha",
"port" : 3306,
"azCode" : "az1xahzaz1xahz",
"timeZone" : "UTC+08: 00"
}, {
"id" : "337e2598c2a64cb5935079f85996731din01",
"projectId" : "055d9f4ee780d4d42f96c01c1bc3c50c",
"status" : "normal",
"name" : "test-ddm-no-delete-test01",
"engineName" : "mysql",
"engineSoftwareVersion" : 5.7,
"privateIp" : "192.168.23.221",
"mode" : "Ha",
"port" : 3306,
"azCode" : "az1xahzaz1xahz",
"timeZone" : "UTC+08: 00"
}],
"offset" : 0,
"limit" : 6,
"total" : 2
}

```

**Status code: 400**

Bad request

```

{
"externalMessage" : "Parameter error.",
"errCode" : "DBS.280001"
}

```

**Status code: 500**

Server error

```

{
"externalMessage" : "Server failure.",
"errCode" : "DBS.200412"
}

```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.6 Creating a Schema (a V3 API)

#### Function

This API is used to create a schema.

## URI

POST /v3/{project\_id}/instances/{instance\_id}/databases

**Table 4-241** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region. For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 32 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>
instance_id	Yes	String	<p><b>Definition</b> Instance ID, which uniquely identifies an instance.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in09</b>. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

## Request Parameters

**Table 4-242** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

**Table 4-243** Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Schema name, which: <ul style="list-style-type: none"> <li>• Can include 2 to 48 characters.</li> <li>• Must start with a lowercase letter.</li> <li>• Contains only lowercase letters, digits, and underscores (_).</li> <li>• Cannot be the following names: <b>information_schema</b>, <b>mysql</b>, <b>performance_schema</b>, or <b>sys</b></li> </ul>
shard_mode	Yes	String	Sharding mode of the schema. The value can be: <ul style="list-style-type: none"> <li>• <b>cluster</b>: indicates that the schema is in sharded mode.</li> <li>• <b>single</b>: indicates that the schema is in unsharded mode.</li> </ul>

Parameter	Mandatory	Type	Description
shard_number	Yes	Integer	Number of shards in the same working mode <ul style="list-style-type: none"> <li>• If <b>shard_unit</b> is not empty, the value is the product of <b>shard_unit</b> multiplied by the associated data nodes.</li> <li>• If <b>shard_unit</b> is left blank, the value must be greater than the number of associated data nodes and less than or equal to the product of the associated data nodes multiplied by 64.</li> </ul>
dn_instances	Yes	Array of <b>DatabaseDnInstances</b> objects	Data nodes associated with the schema. A maximum of 256 data nodes are supported.

**Table 4-244** DatabaseDnInstances

Parameter	Mandatory	Type	Description
id	Yes	String	ID of the data node associated with the schema
user_name	Yes	String	Username for logging in to the associated data node
user_password	Yes	String	Password of the user for logging in to the associated data node

## Response Parameters

**Status code: 202**

**Table 4-245** Response body parameters

Parameter	Type	Description
name	String	Schema name.
job_id	String	Workflow ID.

**Status code: 400**

**Table 4-246** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-247** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

```
POST https://cn-north-1/v3/{project_id}/instances/{instance_id}/databases
{
  "name" : "mytestdb",
  "shard_mode" : "cluster",
  "shard_number" : 8,
  "dn_instances" : [ {
    "id" : "f296c394f13f48449d715bf99af07e59in01",
    "user_name" : "root",
    "user_password" : "PassWord_234"
  } ]
}
```

## Example Response

**Status code: 202**

Success.

```
{
  "name" : "mytestdb",
  "job_id" : "0e20f87b-cb3a-4612-a2ae-16e3f04e1f4c"
}
```

**Status code: 400**

Bad request

```
{
  "error_code" : "DBS.280001",
  "error_msg" : "Parameter error."
}
```

**Status code: 500**

Server error

```
{
  "error_code" : "DBS.280001",
```

```
"error_msg" : "Parameter error."  
}
```

## Status Codes

Status Codes	Description
202	Success.
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.7 Deleting a Schema (a V3 API)

#### Function

This API is used to delete a specified schema.

#### URI

DELETE /v3/{project\_id}/instances/{instance\_id}/databases/{database\_name}

**Table 4-248** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID.
instance_id	Yes	String	DDM instance ID
database_name	Yes	String	Name of an existing schema.

**Table 4-249** Query parameters

Parameter	Mandatory	Type	Description
delete_dn_data	Yes	Boolean	Whether data stored on the associated DB instances is deleted. The value can be: <ul style="list-style-type: none"> <li>• <b>true</b>: indicates that the data stored on the associated DB instances is deleted.</li> <li>• <b>false</b>: indicates that the data stored on the associated DB instances is not deleted.</li> </ul>

## Request Parameters

**Table 4-250** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

**Status code: 202**

**Table 4-251** Response body parameters

Parameter	Type	Description
job_id	String	Workflow ID.
database_name	String	Schema name

**Status code: 400**

**Table 4-252** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-253** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

- Deleting a schema (including the data stored on associated DB instances)

```
DELETE https://ddm.cn-southwest-2.myhuaweicloud.com/v3/74f57817ca8f42e19318eb0e0ad41d18/instances/490030ecae1345b49c72b11a0812f99ain09/databases/db_b794?delete_dn_data=true
```

- Deleting a schema (excluding the data stored on associated DB instances)

```
DELETE https://ddm.cn-southwest-2.myhuaweicloud.com/v3/74f57817ca8f42e19318eb0e0ad41d18/instances/490030ecae1345b49c72b11a0812f99ain09/databases/db_b794?delete_dn_data=false
```

## Example Response

**Status code: 202**

OK

```
{
  "job_id" : "075fabcf-c4f0-4dc3-a734-65449f5cd277",
  "database_name" : "abc"
}
```

**Status code: 400**

Bad request

```
{
  "error_code" : "DBS.280001",
  "error_msg" : "Parameter error."
}
```

**Status code: 500**

Server error

```
{
  "error_code" : "DBS.290015",
  "error_msg" : "Failed to process the request."
}
```

## Status Codes

Status Codes	Description
202	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.8 Querying Details About a Schema (a V3 API)

#### Function

Querying details about a schema

#### URI

GET /v3/{project\_id}/instances/{instance\_id}/databases/{database\_name}

**Table 4-254** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID.
instance_id	Yes	String	Instance ID
database_name	Yes	String	Schema name

#### Request Parameters

**Table 4-255** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

Status code: 200

**Table 4-256** Response body parameters

Parameter	Type	Description
shards	Array of <b>Shards</b> objects	Shards of a schema.
status	String	Schema status. <b>CREATING</b> : The logical table is being created. <b>RUNNING</b> : The logical table is running. <b>UNKNOWN</b> : The local table is in other states.
created	String	Creation time. The format is yyyy-MM-ddTHH:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> .
updated	String	Update time. The format is yyyy-MM-ddTHH:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> .
name	String	Schema name, which: <ul style="list-style-type: none"> <li>• Can include 2 to 48 characters.</li> <li>• Must start with a letter.</li> <li>• Contains only lowercase letters, digits, and underscores (_).</li> <li>• Cannot be the following names: <b>information_schema</b>, <b>mysql</b>, <b>performance_schema</b>, or <b>sys</b></li> </ul>
shard_mode	String	Sharding mode of the schema. The value can be: <ul style="list-style-type: none"> <li>• <b>cluster</b>: indicates that the schema is in sharded mode.</li> <li>• <b>single</b>: indicates that the schema is in unsharded mode.</li> </ul>

Parameter	Type	Description
shard_number	Integer	Number of shards in the schema.
data_nodes	Array of <a href="#">DataNodes</a> objects	Information about associated backend data nodes.

**Table 4-257** Shards

Parameter	Type	Description
data_node_id	String	ID of the RDS instance where a physical shard is located.
physical_db_name	String	Physical shard name.
status	String	Physical shard status.
shard_index	Integer	Sequence number of a physical shard.

**Table 4-258** DataNodes

Parameter	Type	Description
id	String	ID of a data node.
status	String	Status of a data node.
name	String	Name of a data node.
engine_name	String	Engine name of a data node.
engine_version	String	Engine version of a data node
mem	Integer	Memory size of a data node.
cpu	Integer	CPU size of a data node.

**Status code: 400**

**Table 4-259** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-260** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

Querying details about a schema

```
GET https://{endpoint}/v3/{project_id}/instances/{instance_id}/databases/{database_name}
```

## Example Response

**Status code: 200**

OK

```
{
  "shards": [ {
    "data_node_id": "253883d4****d3fb38161b57in01",
    "physical_db_name": "ddm_db_test_0000",
    "status": "RUNNING",
    "shard_index": 0
  }, {
    "data_node_id": "253883d4****9960d3fb38161b57in01",
    "physical_db_name": "ddm_db_test_0001",
    "status": "RUNNING",
    "shard_index": 1
  } ],
  "status": "RUNNING",
  "created": "2025-02-10T07:18:26+0000",
  "updated": "2025-02-10T07:18:26+0000",
  "name": "ddm_db_test",
  "shard_mode": "cluster",
  "shard_number": 2,
  "data_nodes": [ {
    "id": "253883****089960d3fb38161b57in01",
    "status": "normal",
    "name": "mysql****YwVuVoio6g8AnF5oUH5i",
    "engine_name": "mysql",
    "engine_version": "5.7",
    "mem": 4,
    "cpu": 2
  } ]
}
```

**Status code: 400**

Bad request

```
{
  "error_code": "DBS.280001",
  "error_msg": "Parameter error."
}
```

**Status code: 500**

Server error

```
{
  "error_code": "DBS.290015",
}
```

```
"error_msg" : "Failed to process the request."
}
```

## Status Codes

Status Codes	Description
202	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.9 Exporting Schema Metadata (a V3 API)

#### Function

This API is used to export all schema metadata about distribution of physical shards on data nodes.

#### URI

GET /v3/{project\_id}/instances/{instance\_id}/schema-metadata

**Table 4-261** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-262** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Example Request

```
Exporting schema metadata
GET https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/1f5c9fd6cd984056ba89c8c87cc03278in09/schema-metadata
```

## Response Parameters

**Status code: 200**

**Table 4-263** Response body parameters

Parameter	Type	Description
compressed_databases_info	String	Schema information
data_nodes	Array of <b>DnInstanceInfo</b> objects	Information about associated backend data nodes

**Table 4-264** DnInstanceInfo

Parameter	Type	Description
instance_id	String	ID of the backend data node
instance_name	String	Name of the backend data node
access_host	String	IP address of the backend data node
access_port	Integer	Port of the backend data node
engine	String	Engine of the backend data node
engine_version	String	Engine version of the backend data node

**Status code: 400**

**Table 4-265** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-266** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

### Example Request

None

### Example Response

**Status code: 200**

```
{
  "compressed_databases_info": "H4sIAAAAAAAAAAN3cTW/bRhgE4P/
Csw7aL4rUtQUKX3wo0IMQCPxYNQJsOjAplIWR/17K1RvDPgQ9...",
  "data_nodes": [{
    "instance_id": "91b1272b09364ddeb999f1295bf0506ain01",
    "instance_name": "rds-for-ddm-01",
    "access_host": "172.16.192.110",
    "access_port": 3306,
    "engine": "mysql",
    "engine_version": "5.7"
  }]
}
```

**Status code: 400**

Bad request

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

## Status Codes

Status Codes	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.10 Importing Schema Metadata (a V3 API)

#### Function

This API is used to import distribution information of physical shards in all schemas and use it to create schemas that contain the same physical shards and distribution relationship.

#### URI

POST /v3/{project\_id}/instances/{instance\_id}/schema-metadata

**Table 4-267** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-268** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

**Table 4-269** Request body parameters

Parameter	Mandatory	Type	Description
compressed_databases_info	Yes	String	Distribution information of physical shards in a schema. This information is compressed and encoded. For details about how to obtain the information, see <a href="#">Exporting Schema Metadata (a V3 API)</a> .
dn_instance	Yes	Array of <b>DNInstance</b> objects	Information about associated backend data nodes

**Table 4-270** DNInstance

Parameter	Mandatory	Type	Description
dn_instance_id	Yes	String	ID of the backend data node
admin_user	Yes	String	Account for logging in to the backend data node
admin_password	Yes	String	Password of the account for logging in to the backend data node

## Response Parameters

**Status code: 202**

**Table 4-271** Response body parameters

Parameter	Type	Description
instance_id	String	Instance ID
instance_name	String	Instance name
job_id	String	Job ID

**Status code: 400**

**Table 4-272** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-273** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

```
POST https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/
1f5c9fd6cd984056ba89c8c87cc03278in09/schema-metadata
{
  "compressed_databases_info" : "H4slAAAAAAAAAN3cTW/bRhgE4P/
Csw7aL4rUtQUKX3wo0lMQCPxYNQJsOjApIIWR/17K1RvDPgQ9...",
  "dn_instance" : [ {
    "dn_instance_id" : "91b1272b09364ddeb999f1295bf0506ain01",
    "admin_user" : "root",
    "admin_password" : "xxxxxxx"
  } ]
}
```

## Example Response

**Status code: 202**

```
{
  "job_id":"441d5677-b76a-4dd4-a97a",
  "instance_id":"91b1272b09364ddeb999f1295bf0506ain09",
  "instance_name":"ddm-test-01"
}
```

**Status code: 400**

Bad request

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

## Status Codes

Status Codes	Description
202	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.11 Querying Data Nodes Available for Creating a Schema (a V3 API)

#### Function

This API is used to query data nodes available for creating a schema.

#### URI

GET /v3/{project\_id}/instances/{instance\_id}/available-data-nodes

**Table 4-274** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

**Table 4-275** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.
limit	No	Integer	Maximum records to be queried. Value range: <b>1 to 128</b> If the parameter value is not specified, 10 records are queried by default.

## Request Parameters

**Table 4-276** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

**Status code: 200**

**Table 4-277** Response body parameters

Parameter	Type	Description
data_nodes	Array of <b>AvailableDnInstance</b> objects	Available backend data nodes.
offset	Integer	Which page the server starts returning items

Parameter	Type	Description
limit	Integer	Number of records displayed on each page
total	Integer	Total number of records

**Table 4-278** AvailableDnInstance

Parameter	Type	Description
id	String	Data node ID.
status	String	Data node status.
name	String	Data node name.
engine_name	String	Data node engine name.
engine_version	String	Data node engine version.
private_ip	String	Private IP address of the data node.
port	Integer	Port of the data node.
time_zone	String	Time zone of the data node.

**Status code: 400**

**Table 4-279** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-280** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

GET [https://{endpoint}/v3/{project\\_id}/instances/{instance\\_id}/available-data-nodes?offset=0&limit=10](https://{endpoint}/v3/{project_id}/instances/{instance_id}/available-data-nodes?offset=0&limit=10)

## Example Response

### Status code: 200

```
{
  "data_nodes": [
    {
      "id": "085ef55*****d1c9770fa92413a8822in01",
      "status": "normal",
      "name": "rds-f2f2",
      "engine_name": "mysql",
      "engine_version": "8.0",
      "private_ip": "127.0.0.1",
      "port": 3306,
      "time_zone": "UTC+08:00"
    }
  ],
  "offset": 0,
  "limit": 10,
  "total": 1
}
```

### Status code: 400

Bad request

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

### Status code: 500

Server error

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

## Status Codes

Status Codes	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.3.12 Querying Data Nodes Available for Shard Configuration (a V3 API)

### Function

This API is used to query data nodes that can be used for shard configuration.

### URI

GET /v3/{project\_id}/instances/{instance\_id}/databases/{db\_name}/migration/available-data-nodes

**Table 4-281** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region
instance_id	Yes	String	DDM instance ID
db_name	Yes	String	Schema name

**Table 4-282** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.
limit	No	Integer	Maximum records to be queried. Value range: <b>1 to 128</b> If the parameter value is not specified, 10 records are queried by default.

## Request Parameters

**Table 4-283** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

Status code: 200

**Table 4-284** Response body parameters

Parameter	Type	Description
data_nodes	Array of <a href="#">AvailableDnInstance</a> objects	Information about available backend data nodes
offset	Integer	Which page the server starts returning items
limit	Integer	Number of records displayed on each page
total	Integer	Total number of records

**Table 4-285** AvailableDnInstance

Parameter	Type	Description
id	String	Data node ID.
status	String	Data node status.
name	String	Data node name.
engine_name	String	Data node engine name.
engine_version	String	Data node engine version.
private_ip	String	Private IP address of the data node.
port	Integer	Port of the data node.

Parameter	Type	Description
time_zone	String	Time zone of the data node.

**Status code: 400**

**Table 4-286** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-287** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

```
GET https://{endpoint}/v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/available-data-nodes?offset=0&limit=10
```

## Example Response

**Status code: 200**

```
{
  "data_nodes": [
    {
      "id": "6fbbff10****e68bd6c4cfb5f3280c0in01",
      "status": "backup",
      "name": "rds-25b3",
      "engine_name": "mysql",
      "engine_version": "8.0",
      "private_ip": "127.0.0.1",
      "port": 3306,
      "time_zone": "UTC+08:00"
    }
  ],
  "offset": 0,
  "limit": 10,
  "total": 1
}
```

**Status code: 400**

Bad request

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

## Status Codes

Status Codes	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.13 Pre-checking Shard Configuration (a V3 API)

#### Function

This API is used to pre-check shard configuration.

#### URI

POST /v3/{project\_id}/instances/{instance\_id}/databases/{db\_name}/migration/precheck

**Table 4-288** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region
instance_id	Yes	String	DDM instance ID
db_name	Yes	String	Schema name

## Request Parameters

**Table 4-289** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

**Table 4-290** Request body parameters

Parameter	Mandatory	Type	Description
data_nodes	Yes	Array of <b>DataNode</b> objects	Data node information after the configuration. The number of shards or data nodes after the configuration must be greater than that before the configuration.
new_shard_number	Yes	String	Number of shards after the configuration. The number of shards or data nodes after the configuration must be greater than that before the configuration. A single instance supports a maximum of 64 shards.
switch_route_begin_time	No	String	Start time of the route switchover
switch_route_end_time	No	String	End time of the route switchover
is_exclusive	No	Boolean	Whether dedicated nodes are used for shard configuration.

**Table 4-291** DataNode

Parameter	Mandatory	Type	Description
id	Yes	String	Data node ID
user	Yes	String	Database user

Parameter	Mandatory	Type	Description
password	Yes	String	Database password

## Response Parameters

**Status code: 202**

**Table 4-292** Response body parameters

Parameter	Type	Description
pre_check_results	Array of <b>PreCheckResult</b> objects	Information about associated backend data nodes
job_id	String	Workflow ID.

**Table 4-293** PreCheckResult

Parameter	Type	Description
name	String	Check item name
status	String	Check result
note	String	Check item message
handling_suggestion	String	Handling suggestion
error_message	String	Error message
error_detail_message	String	Error details

**Status code: 400**

**Table 4-294** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-295** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

```
{
  "new_shard_number" : 9,
  "data_nodes" : [ {
    "id" : "7edae0250ebc464897bd92b8d3e8b769in01",
    "user" : "root",
    "password" : "xxxxxx"
  } ]
}
```

## Example Response

### Status code: 202

```
{
  "job_id": "65c77858-e6a2-4694-8810-ab0b501b0003",
  "pre_check_results": [
    {
      "name": "Expire time of binlog in associated DN instances",
      "status": "SUCCESS",
      "note": "",
      "handling_suggestion": "Configuring shards require expiration of binlog more than 7 days(604800 seconds), please change binlog_expire_logs_seconds",
      "error_message": "",
      "error_detail_message": ""
    },
    {
      "name": "Tables with overwhelming table partitions",
      "status": "SUCCESS",
      "note": "",
      "handling_suggestion": "Every single row from source table will be recalculated and routed to all new partition table when shard number is changed. Because your partition table number will be overwhelming after configuring shard, shard configuring will take too long to finish. Please contact customer service.",
      "error_message": "",
      "error_detail_message": ""
    }
  ]
}
```

### Status code: 400

Bad request

```
{
  "error_msg" : "Parameter error.",
  "error_code" : "DBS.280001"
}
```

### Status code: 500

Server error

```
{
  "error_msg" : "Parameter error.",
}
```

```
"error_code" : "DBS.280001"
}
```

## Status Codes

Status Codes	Description
202	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.14 Querying the Asynchronous Pre-check Result of Shard Configuration (a V3 API)

#### Function

This API is used to query the asynchronous pre-check result of shard configuration.

#### URI

GET /v3/{project\_id}/instances/{instance\_id}/databases/{db\_name}/migration/precheck/{job\_id}

**Table 4-296** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region
instance_id	Yes	String	DDM instance ID
db_name	Yes	String	Schema name
job_id	Yes	String	Workflow ID. For details about how to obtain the value of this parameter, see <a href="#">Pre-checking Shard Configuration (a V3 API)</a> .

## Request Parameters

**Table 4-297** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

Status code: 200

**Table 4-298** Response body parameters

Parameter	Type	Description
pre_check_results	Array of <b>PreCheckResult</b> objects	Pre-verification results
job_id	String	Pre-verification task ID,

**Table 4-299** PreCheckResult

Parameter	Type	Description
name	String	Check item
status	String	Check result, which can be: <b>SUCCESS</b> : successful <b>FAILED</b> : failed <b>WARN</b> : Warning
note	String	Prompt information
handling_suggestion	String	Modification suggestions
error_message	String	Error message
error_detail_message	String	Error details

**Status code: 400**

**Table 4-300** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-301** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Example Request**

None

**Example Response**

**Status code: 200**

```
{
  "job_id": "65c77858-e6a2-4694-8810-ab0b501b0003",
  "pre_check_results": [
    {
      "name": "Expire time of binlog in associated DN instances",
      "status": "SUCCESS",
      "note": "",
      "handling_suggestion": "Configuring shards require expiration of binlog more than 7 days(604800 seconds), please change binlog_expire_logs_seconds",
      "error_message": "",
      "error_detail_message": ""
    },
    {
      "name": "Tables with overwhelming table partitions",
      "status": "SUCCESS",
      "note": "",
      "handling_suggestion": "Every single row from source table will be recalculated and routed to all new partition table when shard number is changed. Because your partition table number will be overwhelming after configuring shard, shard configuring will take too long to finish. Please contact customer service.",
      "error_message": "",
      "error_detail_message": ""
    }
  ]
}
```

**Status code: 400**

Bad request

```
{
  "error_msg": "Parameter error.",
}
```

```
{
  "error_code" : "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "error_msg" : "Parameter error.",
  "error_code" : "DBS.280001"
}
```

## Status Codes

Status Codes	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.15 Configuring Shards (a V3 API)

#### Function

This API is used to configure shards.

#### URI

POST /v3/{project\_id}/instances/{instance\_id}/databases/{db\_name}/migration

**Table 4-302** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region
instance_id	Yes	String	DDM instance ID
db_name	Yes	String	Schema name

## Request Parameters

**Table 4-303** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

**Table 4-304** Request body parameters

Parameter	Mandatory	Type	Description
data_nodes	Yes	Array of <b>DataNode</b> objects	Information about associated backend data nodes
switch_route_begin_time	No	String	Time when the automatic route switching starts (in the <i>hh:mm:ss</i> format, for example, <b>17:00:00</b> ). The start time must be earlier than the end time, and the interval cannot be less than 60 minutes. Switching routes during off-peak hours is recommended.
switch_route_end_time	No	String	Time when the automatic route switching ends (in the <i>hh:mm:ss</i> format, for example, <b>18:00:00</b> ). The end time must be later than the start time, and the interval cannot be less than 60 minutes. Switching routes during off-peak hours is recommended.
new_shard_number	Yes	String	Number of shards after the shard configuration. The number of shards or data nodes after the configuration must be greater than that before the configuration. A single instance supports a maximum of 64 shards.

Parameter	Mandatory	Type	Description
is_exclusive	No	Boolean	<p>Whether shard configuration exclusively occupies a node. The default value is <b>false</b>. The value can be:</p> <ul style="list-style-type: none"> <li>• <b>true</b>: It exclusively occupies a node.</li> <li>• <b>false</b>: It does not exclusively occupy a node.</li> <li>• If this parameter is set to <b>true</b>, the execution node will be dedicated to configuring shards, so shard configuration is faster. If you are worried about not having enough nodes to handle your services, add more nodes before configuring shards.</li> <li>• If this parameter is set to <b>true</b>, you need to enable load balancing for the default group and ensure that the number of nodes exceeds one.</li> </ul>

**Table 4-305** DataNode

Parameter	Mandatory	Type	Description
id	Yes	String	Data node ID
user	Yes	String	<p>Database user</p> <ul style="list-style-type: none"> <li>• Required permissions: SELECT, INSERT, UPDATE, DELETE, CREATE, DROP, RELOAD, PROCESS, REFERENCES, INDEX, ALTER, SHOW DATABASES, CREATE TEMPORARY TABLES, LOCK TABLES, EXECUTE, REPLICATION SLAVE, REPLICATION CLIENT, CREATE VIEW, SHOW VIEW, CREATE ROUTINE, ALTER ROUTINE, CREATE USER, EVENT, TRIGGER WITH GRANT OPTION</li> </ul>

Parameter	Mandatory	Type	Description
password	Yes	String	Database password

## Response Parameters

**Status code: 202**

**Table 4-306** Response body parameters

Parameter	Type	Description
job_id	String	Task ID.

**Status code: 400**

**Table 4-307** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-308** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

```
{
  "new_shard_number" : 9,
  "data_nodes" : [ {
    "id" : "7edae0250ebc464897bd92b8d3e8b769in01",
    "user" : "root",
    "password" : "Pa*****4"
  } ]
}
```

## Example Response

**Status code: 202**

```
{
  "job_id": "xxxxxxxx-5d7e-4e1a-aeb4-9b1e6d0a4999"
}
```

**Status code: 400**

Bad request

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

### Status Codes

Status Codes	Description
202	OK
400	Bad request
500	Server error

### Error Codes

For details, see [Error Codes](#).

## 4.3.16 Querying Details About a Shard Configuration Task (a V3 API)

### Function

This API is used to query details about a shard configuration task.

### URI

GET /v3/{project\_id}/instances/{instance\_id}/databases/{db\_name}/migration/jobs/{job\_id}

**Table 4-309** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region

Parameter	Mandatory	Type	Description
instance_id	Yes	String	DDM instance ID
db_name	Yes	String	Schema name
job_id	Yes	String	Workflow ID For details about how to obtain the value of this parameter, see <a href="#">Configuring Shards (a V3 API)</a> .

## Request Parameters

**Table 4-310** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

Status code: 200

**Table 4-311** Response body parameters

Parameter	Type	Description
instance_name	String	Instance name
original_shard_num	Integer	Total number of shards before configuration
after_shard_num	Integer	Total number of shards after configuration
original_dn_info_list	Array of <a href="#">MigrateDnInfoOpenResponse</a> objects	Information about data nodes before configuration

Parameter	Type	Description
after_dn_info_list	Array of <a href="#">MigrateDnInfoOpenResponse</a> objects	Information about data nodes after configuration
switch_route_is_manual	Boolean	Whether manual route switching is used. <ul style="list-style-type: none"> <li>• <b>true</b>: Manual route switching is used.</li> <li>• <b>false</b>: Automatic route switching is used.</li> </ul>
auto_switch_begin_time	String	Time when the automatic route switching starts (in the <i>hh:mm:ss</i> format, for example, <b>17:00:00</b> )
auto_switch_end_time	String	Time when the automatic route switching ends (in the <i>hh:mm:ss</i> format, for example, <b>18:00:00</b> )
node_id_for_migrate	String	Node where shard configuration is performed
is_exclusive	Boolean	Whether shard configuration exclusively occupies a node. The value can be: <ul style="list-style-type: none"> <li>• <b>true</b>: It exclusively occupies a node.</li> <li>• <b>false</b>: It does not exclusively occupy a node.</li> </ul>

**Table 4-312** MigrateDnInfoOpenResponse

Parameter	Type	Description
dn_instance_id	String	RDS instance ID
dn_instance_name	String	RDS instance name

**Status code: 400**

**Table 4-313** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-314** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

### Example Request

None

### Example Response

**Status code: 200**

```
{
  "instance_name": "UTS-src",
  "original_shard_num": 8,
  "after_shard_num": 9,
  "original_dn_info_list": [
    {
      "dn_instance_id": "7edae0250ebc464897bd92b8d3e8b769in01",
      "dn_instance_name": "UTS-rds-src"
    }
  ],
  "after_dn_info_list": [
    {
      "dn_instance_id": "7edae0250ebc464897bd92b8d3e8b769in01",
      "dn_instance_name": "UTS-rds-src"
    }
  ],
  "switch_route_is_manual": true,
  "auto_switch_begin_time": "",
  "auto_switch_end_time": "",
  "node_id_for_migrate": "0c12161a26a4426c9bc72efe4ff05224no09",
  "is_exclusive": false
}
```

**Status code: 400**

Bad request

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

## Status Codes

Status Codes	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.17 Canceling Shard Configuration (a V3 API)

#### Function

This API is used to cancel shard configuration.

#### URI

PUT /v3/{project\_id}/instances/{instance\_id}/databases/{db\_name}/migration/jobs/{job\_id}/cancel

**Table 4-315** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region
instance_id	Yes	String	DDM instance ID
db_name	Yes	String	Schema name
job_id	Yes	String	Workflow ID. For details about how to obtain the value of this parameter, see <a href="#">Configuring Shards (a V3 API)</a> .

## Request Parameters

**Table 4-316** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

**Status code: 202**

**Table 4-317** Response body parameters

Parameter	Type	Description
job_id	String	Task ID

**Status code: 400**

**Table 4-318** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-319** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

None

## Example Response

### Status code: 202

```
{  
  "job_id": "xxxxxxxx-5d7e-4e1a-aeb4-9b1e6d0a4999"  
}
```

### Status code: 400

Bad request

```
{  
  "error_msg": "Parameter error.",  
  "error_code": "DBS.280001"  
}
```

### Status code: 500

Server error

```
{  
  "error_msg": "Parameter error.",  
  "error_code": "DBS.280001"  
}
```

## Status Codes

Status Codes	Description
202	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.18 Rolling Back Shard Configuration (a V3 API)

#### Function

This API is used to roll back shard configuration.

#### URI

PUT /v3/{project\_id}/instances/{instance\_id}/databases/{db\_name}/migration/jobs/{job\_id}/rollback

**Table 4-320** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region
instance_id	Yes	String	DDM instance ID
db_name	Yes	String	Schema name
job_id	Yes	String	Workflow ID. For details about how to obtain the value of this parameter, see <a href="#">Configuring Shards (a V3 API)</a> .

## Request Parameters

**Table 4-321** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

**Status code: 202**

**Table 4-322** Response body parameters

Parameter	Type	Description
job_id	String	Task ID

**Status code: 400**

**Table 4-323** Response body parameters

Parameter	Type	Description
error_code	String	Error code

Parameter	Type	Description
error_msg	String	Error message

**Status code: 500**

**Table 4-324** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

None

## Example Response

**Status code: 202**

```
{  
  "job_id": "xxxxxxxx-5d7e-4e1a-aeb4-9b1e6d0a4999"  
}
```

**Status code: 400**

Bad request

```
{  
  "error_msg": "Parameter error.",  
  "error_code": "DBS.280001"  
}
```

**Status code: 500**

Server error

```
{  
  "error_msg": "Parameter error.",  
  "error_code": "DBS.280001"  
}
```

## Status Codes

Status Codes	Description
202	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.19 Clearing Shard Configuration Data (a V3 API)

#### Function

This API is used to clear shard configuration data.

#### URI

PUT /v3/{project\_id}/instances/{instance\_id}/databases/{db\_name}/migration/jobs/{job\_id}/clean

**Table 4-325** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region
instance_id	Yes	String	DDM instance ID
db_name	Yes	String	Schema name
job_id	Yes	String	Workflow ID. For details about how to obtain the value of this parameter, see <a href="#">Configuring Shards (a V3 API)</a> .

#### Request Parameters

**Table 4-326** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

#### Response Parameters

**Status code: 202**

**Table 4-327** Response body parameters

Parameter	Type	Description
job_id	String	Task ID

**Status code: 400**

**Table 4-328** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-329** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

None

## Example Response

**Status code: 202**

```
{  
  "job_id": "xxxxxxxx-5d7e-4e1a-aeb4-9b1e6d0a4999"  
}
```

**Status code: 400**

Bad request

```
{  
  "error_msg": "Parameter error.",  
  "error_code": "DBS.280001"  
}
```

**Status code: 500**

Server error

```
{  
  "error_msg": "Parameter error.",  
  "error_code": "DBS.280001"  
}
```

## Status Codes

Status Codes	Description
202	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.20 Retrying Shard Configuration (a V3 API)

#### Function

This API is used to retry shard configuration.

#### URI

PUT /v3/{project\_id}/instances/{instance\_id}/databases/{db\_name}/migration/jobs/{job\_id}/retry

**Table 4-330** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region
instance_id	Yes	String	DDM instance ID
db_name	Yes	String	Schema name
job_id	Yes	String	Workflow ID. For details about how to obtain the value of this parameter, see <a href="#">Configuring Shards (a V3 API)</a> .

## Request Parameters

**Table 4-331** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

**Status code: 202**

**Table 4-332** Response body parameters

Parameter	Type	Description
job_id	String	Task ID

**Status code: 400**

**Table 4-333** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-334** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

None

## Example Response

### Status code: 202

```
{  
  "job_id": "xxxxxxxx-5d7e-4e1a-aeb4-9b1e6d0a4999"  
}
```

### Status code: 400

Bad request

```
{  
  "error_msg": "Parameter error.",  
  "error_code": "DBS.280001"  
}
```

### Status code: 500

Server error

```
{  
  "error_msg": "Parameter error.",  
  "error_code": "DBS.280001"  
}
```

## Status Codes

Status Codes	Description
202	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.21 Changing a Route Switching Policy (a V3 API)

#### Function

This API is used to change a route switching policy.

#### URI

PUT /v3/{project\_id}/instances/{instance\_id}/databases/{db\_name}/migration/jobs/{job\_id}/route-switch-strategy

**Table 4-335** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region
instance_id	Yes	String	DDM instance ID
db_name	Yes	String	Schema name
job_id	Yes	String	Workflow ID. For details about how to obtain the value of this parameter, see <a href="#">Configuring Shards (a V3 API)</a> .

## Request Parameters

**Table 4-336** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

**Table 4-337** Request body parameters

Parameter	Mandatory	Type	Description
project_id	No	String	Project ID
instance_id	No	String	Instance ID
task_id	No	String	Task ID

Parameter	Mandatory	Type	Description
switch_route_begin_time	No	String	Time when the automatic route switching starts (in the <i>hh:mm:ss</i> format, for example, <b>17:00:00</b> ) <ul style="list-style-type: none"> <li>If <b>switch_route_begin_time</b> and <b>switch_route_end_time</b> are not included in the request body, a manual route switching policy is used.</li> <li>The interval between the start time and end time cannot exceed 1 hour.</li> </ul>
switch_route_end_time	No	String	Time when the automatic route switching ends (in the <i>hh:mm:ss</i> format, for example, <b>18:00:00</b> ) <ul style="list-style-type: none"> <li>If <b>switch_route_begin_time</b> and <b>switch_route_end_time</b> are not included in the request body, a manual route switching policy is used.</li> <li>The interval between the start time and end time cannot exceed 1 hour.</li> </ul>
is_open_api	No	Boolean	Whether this is an open API.
logic_db_name	No	String	Schema name

## Response Parameters

**Status code: 200**

None

**Status code: 400**

**Table 4-338** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-339** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

Configuring an automatic route switching policy

```
PUT https://{endpoint}/v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/jobs/{job_id}/route-switch-strategy
```

```
{
  "switch_route_begin_time": "17:00:00",
  "switch_route_end_time": "18:00:00"
}
```

Configuring a manual route switching policy

```
PUT https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/1f5c9fd6cd984056ba89c8c87cc03278in09/databases/ddm_db_test/migration/jobs/10501cd3-0c19-498b-9ba4-8935ed447542/route-switch-strategy
```

## Example Response

**Status code: 200**

```
{}
```

**Status code: 400**

Bad request

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

## Status Codes

Status Codes	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.3.22 Switching a Route (a V3 API)

#### Function

This API is used to switch a route.

#### URI

PUT /v3/{project\_id}/instances/{instance\_id}/databases/{db\_name}/migration/jobs/{job\_id}/route-switch

**Table 4-340** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region
instance_id	Yes	String	DDM instance ID
db_name	Yes	String	Schema name
job_id	Yes	String	Workflow ID. For details about how to obtain the value of this parameter, see <a href="#">Configuring Shards (a V3 API)</a> .

## Request Parameters

**Table 4-341** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

**Status code: 200**

OK

**Status code: 400**

**Table 4-342** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-343** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

Configuring route switching

```
PUT https://{endpoint}/v3/74f57817ca8f42e19318eb0e0ad41d18/instances/733c7e8d73a54c27b8308ec784a8be8cin09/databases/db_e487/migration/jobs/10501cd3-0c19-498b-9ba4-8935ed447542/route-switch
```

## Example Response

**Status code: 200**

None

**Status code: 400**

Bad request

```
{  
  "error_msg": "Parameter error.",  
  "error_code": "DBS.280001"  
}
```

**Status code: 500**

Server error

```
{  
  "error_msg": "Parameter error.",  
  "error_code": "DBS.280001"  
}
```

## Status Codes

Status Codes	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.4 Accounts

### 4.4.1 Creating a DDM Account

#### Function

This API is used to create a DDM account. DDM accounts are used to connect to and manage schemas. A maximum of 100 DDM accounts can be created for each DDM instance, and one DDM account can be associated with multiple schemas.

#### Constraints

None

## URI

POST /v1/{project\_id}/instances/{instance\_id}/users

**Table 4-344** Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-345** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-346** Request body parameters

Parameter	Mandatory	Type	Description
users	Yes	Array of <a href="#">CreateUsersInfo</a> objects	DDM account information

**Table 4-347** CreateUsersInfo

Parameter	Mandatory	Type	Description
name	Yes	String	Username of the DDM account, which: <ul style="list-style-type: none"> <li>• Can include 1 to 32 characters.</li> <li>• Must start with a letter.</li> <li>• Can contain only letters, digits, and underscores (_).</li> </ul> Minimum length: 1 character Maximum length: 32 characters
password	Yes	String	DDM account password
base_authority	Yes	Array of strings	Basic permissions of the DDM account. The value can be <b>CREATE</b> , <b>DROP</b> , <b>ALTER</b> , <b>INDEX</b> , <b>INSERT</b> , <b>DELETE</b> , <b>UPDATE</b> , or <b>SELECT</b> . Enumerated values: <ul style="list-style-type: none"> <li>• <b>CREATE</b></li> <li>• <b>DROP</b></li> <li>• <b>ALTER</b></li> <li>• <b>INDEX</b></li> <li>• <b>INSERT</b></li> <li>• <b>DELETE</b></li> <li>• <b>UPDATE</b></li> <li>• <b>SELECT</b></li> </ul>
description	No	String	Description of the DDM account, which cannot exceed 256 characters. It is left blank by default. Maximum length: 256 characters
databases	No	Array of <b>CreateUsersDatabases</b> objects	Associated schemas. The <b>databases</b> field is optional. You can create a DDM account without associating it with any schema.

**Table 4-348** CreateUsersDatabases

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the associated schema

## Response Parameters

**Status code: 200**

**Table 4-349** Response body parameters

Parameter	Type	Description
users	Array of <a href="#">CreateUsersDetailResponses</a> objects	DDM account information

**Table 4-350** CreateUsersDetailResponses

Parameter	Type	Description
name	String	Username of the DDM account

**Status code: 400**

**Table 4-351** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-352** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Creating account **DDMuser1** that has permissions of CREATE, DROP, ALTER, INDEX, INSERT, DELETE, UPDATE, and SELECT, and associating it with schema **DDMdb1**

```
POST https://{endpoint}/v1/{project_id}/instances/{instance_id}/users
{
  "users": [ {
    "name": "DDMuser1",
    "password": "xxxxxx",

    "base_authority": [ "CREATE", "DROP", "ALTER", "INDEX", "INSERT", "DELETE", "UPDATE", "SELECT" ],
    "description": "",
    "databases": [ {
      "name": "DDMdb1"
    } ]
  } ]
}
```

## Example Response

**Status code: 200**

OK

```
{
  "users": [ {
    "name": "DDMuser1"
  } ]
}
```

**Status code: 400**

bad request

```
{
  "externalMessage": "Parameter error.",
  "errCode": "DBS.280001"
}
```

**Status code: 500**

server error

```
{
  "externalMessage": "Server failure.",
  "errCode": "DBS.200412"
}
```

## Status Codes

Status Code	Description
200	OK
400	bad request

Status Code	Description
500	server error

## Error Codes

For details, see [Error Codes](#).

## 4.4.2 Querying DDM Accounts

### Function

This API is used to query DDM accounts.

### Constraints

None

### URI

GET /v1/{project\_id}/instances/{instance\_id}/users?offset={offset}&limit={limit}

**Table 4-353** Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

**Table 4-354** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a positive integer.

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum accounts to be queried. Value range: 1 to 128. If the parameter value is not specified, 128 nodes are queried by default.

## Request Parameters

**Table 4-355** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

## Response Parameters

Status code: 200

**Table 4-356** Response body parameters

Parameter	Type	Description
users	Array of <a href="#">GetUsersListDetailResponses</a> objects	DDM account information
page_no	Integer	Current page
page_size	Integer	Data records on the current page
total_record	Integer	Total records
total_page	Integer	Total pages

**Table 4-357** GetUsersListDetailResponses

Parameter	Type	Description
name	String	Username of the DDM account
status	String	Status of the DDM account

Parameter	Type	Description
base_authority	Array of strings	Basic permissions of the DDM account. The value can be <b>CREATE, DROP, ALTER, INDEX, INSERT, DELETE, UPDATE, or SELECT.</b>
extend_authority	Array of strings	Extended permissions of the DDM account. The value can be <b>fulltableDelete, fulltableSelect, or fulltableUpdate.</b>
password_last_changed	Long	Time when the password of a DDM account is changed, in UNIX timestamp format
description	String	Description of the DDM account
created	Long	Time when a DDM account is created, in UNIX timestamp format
databases	Array of <a href="#">GetUsersList database</a> objects	Associated schemas

**Table 4-358** GetUsersListdatabase

Parameter	Type	Description
name	String	Name of the schema associated with the DDM account
description	String	Schema description

**Status code: 400**

**Table 4-359** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-360** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Querying DDM accounts

```
GET https://{endpoint}/v1/{project_id}/instances/{instance_id}/users?offset={offset}&limit={limit}
```

## Example Response

**Status code: 200**

OK

```
{
  "users": [ {
    "name": "ddmtest",
    "status": "RUNNING",
    "base_authority": [ "SELECT" ],

    "password_last_changed": 1686904661709,
    "description": "Account",
    "created": 1686904661709,
    "databases": [ {
      "name": "zhxtest",
      "description": "Schema"
    } ]
  } ],
  "page_no": 1,
  "page_size": 10,
  "total_record": 1,
  "total_page": 1
}
```

**Status code: 400**

bad request

```
{
  "externalMessage": "Parameter error.",
  "errCode": "DBS.280001"
}
```

**Status code: 500**

server error

```
{
  "externalMessage": "Server failure.",
  "errCode": "DBS.200412"
}
```

## Status Codes

Status Code	Description
200	OK
400	bad request
500	server error

## Error Codes

For details, see [Error Codes](#).

### 4.4.3 Modifying a DDM Account

#### Function

This API is used to modify the permissions and associated schemas of a DDM account.

#### Constraints

At least one of the following parameters must be configured: **base\_authority**, **description**, and **databases**.

#### URI

PUT /v1/{project\_id}/instances/{instance\_id}/users/{username}

**Table 4-361** Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID
username	Yes	String	Username of the DDM account

## Request Parameters

**Table 4-362** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-363** Request body parameters

Parameter	Mandatory	Type	Description
user	Yes	<a href="#">UpdateUserDetailReq</a> object	DDM account information

**Table 4-364** UpdateUserDetailReq

Parameter	Mandatory	Type	Description
base_authority	No	Array of strings	Basic permissions of the DDM account. The default value is the original account permission. The value can be <b>CREATE</b> , <b>DROP</b> , <b>ALTER</b> , <b>INDEX</b> , <b>INSERT</b> , <b>DELETE</b> , <b>UPDATE</b> , or <b>SELECT</b> . Enumerated values: <ul style="list-style-type: none"> <li>• <b>CREATE</b></li> <li>• <b>DROP</b></li> <li>• <b>ALTER</b></li> <li>• <b>INDEX</b></li> <li>• <b>INSERT</b></li> <li>• <b>DELETE</b></li> <li>• <b>UPDATE</b></li> <li>• <b>SELECT</b></li> </ul>

Parameter	Mandatory	Type	Description
description	No	String	Description of the DDM account, which cannot exceed 256 characters. It is left blank by default. Maximum length: 256 characters
databases	No	Array of <a href="#">UpdateUsersDatabases</a> objects	DDM account information

**Table 4-365** UpdateUsersDatabases

Parameter	Mandatory	Type	Description
name	No	String	Schema name, which is case-insensitive. The <b>databases</b> and <b>name</b> fields must be both or neither specified. The parameter is left blank by default.

## Response Parameters

**Status code: 200**

**Table 4-366** Response body parameters

Parameter	Type	Description
name	String	Username of the DDM account

**Status code: 400**

**Table 4-367** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-368** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

### Example Request

Modifying the account permission to SELECT and associating it with schema **db\_7350**

```
PUT https://{endpoint}/v1/{project_id}/instances/{instance_id}/users/{username}
```

```
{
  "user" : {
    "base_authority" : [ "SELECT" ],
    "description" : "test11",
    "databases" : [ {
      "name" : "db_7350"
    } ]
  }
}
```

### Example Response

**Status code: 200**

OK

```
{
  "name" : "ddmtest"
}
```

**Status code: 400**

bad request

```
{
  "externalMessage" : "Parameter error.",
  "errCode" : "DBS.280001"
}
```

**Status code: 500**

server error

```
{
  "externalMessage" : "Server failure.",
  "errCode" : "DBS.200412"
}
```

## Status Codes

Status Code	Description
200	OK
400	bad request
500	server error

## Error Codes

For details, see [Error Codes](#).

### 4.4.4 Deleting a DDM Account

#### Function

This API is used to delete a DDM account. This operation will also disassociate the account from schemas if any.

#### Constraints

None

#### URI

DELETE /v1/{project\_id}/instances/{instance\_id}/users/{username}

**Table 4-369** Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID
username	Yes	String	Username of the DDM account to be deleted

## Request Parameters

**Table 4-370** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

## Response Parameters

**Status code: 200**

**Table 4-371** Response body parameters

Parameter	Type	Description
name	String	Username of the DDM account

**Status code: 400**

**Table 4-372** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-373** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Deleting a DDM account

DELETE https://{endpoint}/v1/{project\_id}/instances/{instance\_id}/users/{username}

## Example Response

**Status code: 200**

OK

```
{  
  "name" : "ddmtest"  
}
```

**Status code: 400**

bad request

```
{  
  "externalMessage" : "Parameter error.",  
  "errCode" : "DBS.280001"  
}
```

**Status code: 500**

server error

```
{  
  "externalMessage" : "Server failure.",  
  "errCode" : "DBS.200412"  
}
```

## Status Codes

Status Code	Description
200	OK
400	bad request
500	server error

## Error Codes

For details, see [Error Codes](#).

## 4.4.5 Resetting the Password of a DDM Account

### Function

This API is used to reset the password of a DDM account.

### Constraints

None

### URI

POST /v2/{project\_id}/instances/{instance\_id}/users/{username}/password

**Table 4-374** Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID
username	Yes	String	Username of the DDM account to be modified

## Request Parameters

**Table 4-375** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-376** Request body parameters

Parameter	Mandatory	Type	Description
password	Yes	String	New password

## Response Parameters

**Status code: 200**

**Table 4-377** Response body parameters

Parameter	Type	Description
success	Boolean	Whether the operation is successful
instance_id	String	DDM instance ID
user_name	String	Username of the DDM account

**Status code: 400**

**Table 4-378** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-379** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

## Example Request

Resetting the password of a DDM account

```
POST https://{endpoint}/v2/{project_id}/instances/{instance_id}/users/{username}/password
{
  "password" : "xxxxxx"
}
```

## Example Response

**Status code: 200**

OK

```
{
  "success": true,
  "instance_id": "e6b99563-xxxx-xxxx-xxxx-1820d4fd2a67",
  "user_name" : "ddmtest"
}
```

**Status code: 400**

bad request

```
{
  "externalMessage" : "Parameter error.",
  "errCode" : "DBS.280001"
}
```

**Status code: 500**

server error

```
{
  "externalMessage" : "Server failure.",
}
```

```
"errCode" : "DBS.200412"
}
```

## Status Codes

Status Code	Description
200	OK
400	bad request
500	server error

## Error Codes

For details, see [Error Codes](#).

## 4.4.6 Managing an Administrator Password (a V3 API)

### Function

If it is the first time to call this API, it is used to create an administrator and reset its password for a DDM instance. Then this API can only be used to update the administrator password.

### Constraints

The version of DDM must be 3.0.9 or later

### URI

PUT /v3/{project\_id}/instances/{instance\_id}/admin-user

**Table 4-380** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-381** Request header parameters

Parameter	Mandatory	Type	Description
x-auth-token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-382** Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Username of the administrator. The username: <ul style="list-style-type: none"> <li>• Can include 1 to 32 characters.</li> <li>• Must start with a letter.</li> <li>• Can contain only letters, digits, and underscores (_).</li> </ul>
password	Yes	String	Password of the administrator. The password: <ul style="list-style-type: none"> <li>• Can include 8 to 32 characters.</li> <li>• Must be a combination of uppercase letters, lowercase letters, digits, and the following special characters: ~!@#%^*-_+?</li> </ul> Must be a strong password to improve security and prevent security risks such as brute force cracking.

## Response Parameters

**Status code: default**

**Table 4-383** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

Creating administrator account **root** and setting a password for it

```
PUT https://{endpoint}/v3/{project_id}/instances/{instance_id}/admin-user
{
  "name" : "root",
  "password" : "xxxxx"
}
```

## Example Response

None

- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.4.7 Validating Password Strength (a V3 API)

### Function

This API is used to check whether an instance password is a weak password.

### URI

POST /v3/{project\_id}/weak-password-verification

**Table 4-384** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .

## Request Parameters

**Table 4-385** Request header parameters

Parameter	Mandatory	Type	Description
x-auth-token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-386** Request body parameters

Parameter	Mandatory	Type	Description
password	Yes	String	Character string to be validated

## Response Parameters

**Status code: 200**

**Table 4-387** Response body parameters

Parameter	Type	Description
is_weak_password	Boolean	Whether the password is a weak password. The value can be: <b>true</b> : indicating that the password is a weak password. Such a password is not recommended. <b>false</b> : indicating that the password is not a weak password. Such a password is recommended.

**Status code: 400**

**Table 4-388** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-389** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

Verifying password strength

```
POST https://{endpoint}/v3/{project_id}/weak-password-verification
{
  "password" : "xxx"
}
```

## Example Response

**Status code: 200**

OK

```
{
  "is_weak_password" : true
}
```

**Status code: 400**

Bad request

```
{
  "error_msg" : "Parameter error.",
  "error_code" : "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "error_msg" : "Parameter error.",
  "error_code" : "DBS.280001"
}
```

## Status Codes

Status Code	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.4.8 Creating an Account (a V3 API)

### Function

This API is used to create a DDM account used to connect to and manage schemas. One DDM account can be associated with multiple schemas.

### Constraints

None

### API Calling

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

### Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm:instance:createUser	Write	instance*	<ul style="list-style-type: none"> <li>• g:EnterpriseProjectId</li> <li>• g:ResourceTag/&lt;tag-key&gt;</li> </ul>	ddm:user:create	-

### URI

POST /v3/{project\_id}/instances/{instance\_id}/users

**Table 4-390** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region. For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 32 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>
instance_id	Yes	String	<p><b>Definition</b> Instance ID, which uniquely identifies an instance.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in09</b>. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

## Request Parameters

**Table 4-391** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	<p><b>Definition</b> User token.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

**Table 4-392** Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	<p><b>Definition</b> Instance account name.</p> <p><b>Constraints</b></p> <ul style="list-style-type: none"> <li>• The name can contain 1 to 32 characters.</li> <li>• The name must start with a letter.</li> <li>• The name can contain only letters, digits, and underscores (_).</li> </ul> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

Parameter	Mandatory	Type	Description
password	Yes	String	<p><b>Definition</b> Instance account password.</p> <p><b>Constraints</b></p> <ul style="list-style-type: none"> <li>• The password can include 8 to 32 characters.</li> <li>• The password must contain at least three types of lowercase letters, uppercase letters, digits, swung dashes (~), and exclamation marks (!). @ # / % ^ * - _ + ?</li> <li>• The password cannot be a weak password. It cannot be overly simple and easily guessed.</li> <li>• The password cannot be the same as username or username in reverse order.</li> </ul> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>
base_authority	Yes	Array of strings	<p><b>Definition</b> Basic permissions of the DDM account.</p> <p><b>Constraints</b> None</p> <p><b>Range</b> Any combination of <b>CREATE</b>, <b>DROP</b>, <b>ALTER</b>, <b>INDEX</b>, <b>INSERT</b>, <b>DELETE</b>, <b>UPDATE</b>, and <b>SELECT</b></p> <p><b>Default Value</b> N/A</p>

Parameter	Mandatory	Type	Description
description	No	String	<p><b>Definition</b> Instance account description.</p> <p><b>Constraints</b></p> <ul style="list-style-type: none"> <li>The value can contain a maximum of 256 characters.</li> </ul> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>
password_lifetime	No	Long	<p><b>Definition</b> Password validity period of a DDM account.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value is an integer ranging from 0 to 65535, in days. The value <b>0</b> or <b>null</b> indicates that the password never expires.</p> <p><b>Default Value</b> The default value is <b>null</b>, indicating that the password never expires.</p>
databases	No	Array of <a href="#">CreateUserRelatedLogicDbV3</a> objects	<p>Associated schemas.</p> <p>The <b>databases</b> field is optional. You can create a DDM account without associating it with any schema.</p>

**Table 4-393** CreateUserRelatedLogicDbV3

Parameter	Mandatory	Type	Description
name	Yes	String	<p><b>Definition</b> Name of a created schema. Permissions for this schema are granted to the account.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

## Example Request

Creating an account

```
POST https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/61a4ea66210545909d74a05c27a7179ein09/users
{
  "name": "user1",
  "description": "",
  "base_authority": [ "CREATE", "DROP", "ALTER", "INDEX", "INSERT", "DELETE", "UPDATE", "SELECT" ],
  "password": "xxxxxxxx"
}
```

## Response Parameters

- Normal response  
None

## Example Response

- Normal response example  
{ }
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.4.9 Querying Accounts (a V3 API)

### Function

This API is used to query accounts.

### Constraints

None

### API Calling

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

### Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm:instance:listUser	Read	instance*	<ul style="list-style-type: none"> <li>• g:EnterpriseProjectId</li> <li>• g:ResourceTag/&lt;tag-key&gt;</li> </ul>	ddm:user:list	-

### URI

GET /v3/{project\_id}/instances/{instance\_id}/users

**Table 4-394** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region. For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 32 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>
instance_id	Yes	String	<p><b>Definition</b> Instance ID, which uniquely identifies an instance.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in09</b>. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

**Table 4-395** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	<p><b>Definition</b> Which page the server starts returning items</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value is greater than or equal to 0.</p> <p><b>Default Value</b> <b>0</b></p>
limit	No	Integer	<p><b>Definition</b> Number of records on each page</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value is greater than <b>0</b> and less than or equal to <b>128</b>.</p> <p><b>Default Value</b> <b>10</b></p>

## Request Parameters

**Table 4-396** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	<p><b>Definition</b> User token.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

## Example Request

Querying accounts

```
get https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/61a4ea66210545909d74a05c27a7179ein09/users
{
  "total" : 3,
  "offset" : 0,
  "limit" : 1,
  "users" : [ {
    "databases" : [ ],
    "created" : "2025-12-12T04:03:46+0000",
    "name" : "testwuli61",
    "password_lifetime" : null,
    "expiration_time" : null,
    "description" : "",
    "base_authority" : [ "ALTER", "CREATE", "DELETE", "DROP", "INDEX", "INSERT", "SELECT", "UPDATE" ],
    "password_last_changed" : "2025-12-12T04:03:46+0000",
    "status" : "RUNNING"
  } ]
}
```

## Response Parameters

- Normal response

**Table 4-397** Response body parameters

Parameter	Type	Description
users	Array of <a href="#">GetUsersListDetailResponses</a> objects	<b>Definition</b> DDM account information <b>Range</b> N/A
offset	Integer	<b>Definition</b> Which page the server starts returning items <b>Range</b> The value is greater than or equal to <b>0</b> .
limit	Integer	<b>Definition</b> Number of records on each page <b>Range</b> The value is greater than <b>0</b> and less than or equal to <b>128</b> .
total	Integer	<b>Definition</b> Total number of records <b>Range</b> N/A

**Table 4-398** GetUsersListDetailResponses

Parameter	Type	Description
name	String	<b>Definition</b> Name of a DDM account <b>Range</b> N/A
status	String	<b>Definition</b> Status of the DDM account <b>Range</b> N/A
base_authority	Array of strings	<b>Definition</b> Basic permissions of the DDM account <b>Range</b> The value can be <b>CREATE, DROP, ALTER, INDEX, INSERT, DELETE, UPDATE, or SELECT.</b>
password_lifetime	Long	<b>Definition</b> Password validity period of a DDM account <b>Range</b> The value is an integer ranging from 0 to 65535, in days. The value <b>0</b> or <b>null</b> indicates that the password never expires.
password_last_changed	String	<b>Definition</b> Time when the password of the DDM account was last changed The format is yyyy-mm-ddThh:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> . <b>Range</b> N/A
description	String	<b>Definition</b> Account description <b>Range</b> N/A

Parameter	Type	Description
created	String	<p><b>Definition</b></p> <p>Time when the DDM account was created</p> <p>The format is yyyy-mm-ddThh:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b>.</p> <p><b>Range</b></p> <p>N/A</p>
databases	Array of <a href="#">GetUsersListdatabase</a> objects	<p><b>Definition</b></p> <p>Associated schemas. The account can access only the associated schemas.</p> <p><b>Range</b></p> <p>N/A</p>
expiration_time	String	<p><b>Definition</b></p> <p>Time when the password of the DDM account expires</p> <p>The format is yyyy-mm-ddThh:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b>.</p> <p><b>Range</b></p> <p>N/A</p>

**Table 4-399** GetUsersListdatabase

Parameter	Type	Description
name	String	<p><b>Definition</b></p> <p>Name of the associated schema</p> <p><b>Range</b></p> <p>N/A</p>

### Example Response

- Normal response example

```
{
  "users" : [ {
    "name" : "testuser",
```

```
"status" : "RUNNING",
"base_authority" : [ "SELECT" ],
"description" : "for project a",
"created" : "2025-12-12T04:03:46+0000",
"password_last_changed" : "2025-12-12T04:03:46+0000",
"password_lifetime" : null,
"expiration_time" : null,
"databases" : [ {
  "name" : "logicdb1"
} ]
} ],
"offset" : 0,
"limit" : 1,
"total" : 3
}
```

- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.4.10 Modifying an Account (a V3 API)

### Function

This API is used to change the permissions or associated schemas of a DDM account.

### Constraints

At least one of the following parameters must be configured: **base\_authority**, **description**, **databases**, or **password\_lifetime**.

### API Calling

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

### Authorization Information

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

- 
- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).

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

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm:instance:updateUser	Write	instance*	<ul style="list-style-type: none"> <li>g:EnterpriseProjectId</li> <li>g:ResourceTag/&lt;tag-key&gt;</li> </ul>	ddm:user:modify	-

## URI

PUT /v3/{project\_id}/instances/{instance\_id}/users/{username}

**Table 4-400** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value can contain 32 characters. Only letters and digits are supported.</p> <p><b>Default Value</b> N/A</p>

Parameter	Mandatory	Type	Description
instance_id	Yes	String	<p><b>Definition</b> Instance ID, which uniquely identifies an instance</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in09</b>. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>
username	Yes	String	<p><b>Definition</b> Name of the account to be modified.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

## Request Parameters

**Table 4-401** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	<p><b>Definition</b> User token.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

**Table 4-402** Request body parameters

Parameter	Mandatory	Type	Description
base_authority	No	Array of strings	<p><b>Definition</b> Basic permissions of the DDM account</p> <p><b>Constraints</b> None</p> <p><b>Range</b> Any combination of <b>CREATE, DROP, ALTER, INDEX, INSERT, DELETE, UPDATE,</b> and <b>SELECT</b></p> <p><b>Default Value</b> N/A</p>
description	No	String	<p><b>Definition</b> Instance account description</p> <p><b>Constraints</b></p> <ul style="list-style-type: none"> <li>The value can contain a maximum of 256 characters.</li> </ul> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>
password_lifetime	No	Long	<p><b>Definition</b> Password validity period of a DDM account</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value is an integer ranging from 0 to 65535, in days. The value <b>0</b> or <b>null</b> indicates that the password never expires.</p> <p><b>Default Value</b> The default value is <b>null</b>, indicating that the password never expires.</p>

Parameter	Mandatory	Type	Description
databases	No	Array of <a href="#">UpdateUserRelatedLogicDbV3</a> objects	Associated schemas The <b>databases</b> field is optional. You can create a DDM account without associating it with any schema.

**Table 4-403** UpdateUserRelatedLogicDbV3

Parameter	Mandatory	Type	Description
name	Yes	String	<p><b>Definition</b> Name of a created schema. Permissions for this schema are granted to the account.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

## Example Request

- Changing the permissions of an account

```
PUT https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/61a4ea66210545909d74a05c27a7179ein09/users/testuser
{
  "base_authority": [ "CREATE", "DROP", "ALTER", "INDEX", "INSERT", "DELETE", "UPDATE", "SELECT" ]
}
```

- Changing the description of an account

```
PUT https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/61a4ea66210545909d74a05c27a7179ein09/users/testuser
{
  "description": "new description"
}
```

- Changing the password validity period of an account

```
PUT https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/61a4ea66210545909d74a05c27a7179ein09/users/testuser
{
  "password_lifetime": 60
}
```

## Response Parameters

- Normal response  
None

## Example Response

- Normal response example  
{}
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.4.11 Deleting an Account (a V3 API)

### Function

This API is used to delete an account.

### Constraints

None

### API Calling

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

### Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm:instance:deleteUser	Write	instance*	<ul style="list-style-type: none"> <li>g:EnterpriseProjectId</li> <li>g:ResourceTag/&lt;tag-key</li> </ul>	ddm:user:delete	-

## URI

DELETE /v3/{project\_id}/instances/{instance\_id}/users/{username}

**Table 4-404** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region</p> <p>To obtain this value, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value can contain 32 characters. Only letters and digits are supported.</p> <p><b>Default Value</b> N/A</p>
instance_id	Yes	String	<p><b>Definition</b> Instance ID, which uniquely identifies an instance</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in09</b>. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

Parameter	Mandatory	Type	Description
username	Yes	String	<p><b>Definition</b> Username of the account to be deleted</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

## Request Parameters

**Table 4-405** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	<p><b>Definition</b> User token.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

## Example Request

Deleting an account

```
DELETE https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/61a4ea66210545909d74a05c27a7179ein09/users/testuser
```

## Response Parameters

- Normal response  
None

## Example Response

- Normal response example  
{ }
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.4.12 Resetting an Account Password (a V3 API)

### Function

This API is used to reset the password of an account.

### Constraints

None

### API Calling

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

### Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm:instance:updateUser	Write	instance*	<ul style="list-style-type: none"> <li>• g:EnterpriseProjectId</li> <li>• g:ResourceTag/&lt;tag-key&gt;</li> </ul>	ddm:user:modify	-

### URI

POST /v3/{project\_id}/instances/{instance\_id}/users/{username}/password

**Table 4-406** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value can contain 32 characters. Only letters and digits are supported.</p> <p><b>Default Value</b> N/A</p>
instance_id	Yes	String	<p><b>Definition</b> Instance ID, which uniquely identifies an instance</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in09</b>. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>
username	Yes	String	<p><b>Definition</b> Name of the account whose password needs to be reset</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

## Request Parameters

**Table 4-407** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	<p><b>Definition</b> User token.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

**Table 4-408** Request body parameters

Parameter	Mandatory	Type	Description
password	Yes	String	<p><b>Definition</b> Instance account password</p> <p><b>Constraints</b></p> <ul style="list-style-type: none"> <li>• The password can include 8 to 32 characters.</li> <li>• The password must contain at least three types of lowercase letters, uppercase letters, digits, swung dashes (~), and exclamation marks (!). @ # / % ^ * - _ + ?</li> <li>• The password cannot be a weak password. It cannot be overly simple and easily guessed.</li> <li>• The password cannot be the same as username or username in reverse order.</li> </ul> <p><b>Range</b> N/A</p> <p><b>Default Value</b> N/A</p>

## Example Request

Resetting the password of an account

```
POST https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/  
61a4ea66210545909d74a05c27a7179ein09/users/testuser/password  
  
{  
  "password" : "xxxxxx"  
}
```

## Response Parameters

- Normal response  
None

## Example Response

- Normal response example  
{}
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

# 4.5 Task Management

## 4.5.1 Obtaining Information About a Task with a Specified ID

### Function

This API is used to obtain information about a task with a specified ID in the DDM task center.

### Constraints

None

### URI

- URL format  
GET /v3/{project\_id}/jobs/{job\_id}

- Parameter description

**Table 4-409** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-410** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

## Example Request

Obtaining information about a task with a specified ID

GET https://{endpoint}/v3/{project\_id}/jobs/{job\_id}

## Response

- Normal response

**Table 4-411** Response body parameters

Parameter	Type	Description
job	<a href="#">JobInfo</a> object	Task information.

**Table 4-412** JobInfo

Parameter	Type	Description
id	String	Task ID
name	String	Task name

Parameter	Type	Description
status	String	Task execution status. The value can be: <b>Running:</b> The task is being executed. <b>Completed:</b> The task is successfully executed. <b>Failed:</b> The task fails to be executed.
created_time	String	Creation time in the "yyyy-mm-ddThh:mm:ssZ" format. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> .
end_time	String	End time. The format is yyyy-mm-ddThh:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> .
process	String	Task execution progress The execution progress (such as "60%", indicating the task execution progress is 60%) is displayed only when the task is being executed. Otherwise, "" is returned.
instance	<a href="#">Instance object</a>	Instance on which the task is executed

**Table 4-413** Instance

Parameter	Type	Description
id	String	Instance ID
name	String	Instance name

- Normal response example

```
{
  "job": {
    "id": "31b8ae23-c687-4d80-b7b4-42a66c9bb886",
    "name": "CreateInstance",
    "status": "Running",
    "created_time": "2018-08-06T10:41:14+0000",
    "end_time": "2018-08-06T16:41:14+0000",
    "process": "60%",
    "instance": {
      "id": "a48e43ff268f4c0e879652d65e63d0fbin09",
      "name": "DDM-test"
    }
  }
}
```

- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.5.2 Querying Tasks (a V3 API)

### Function

This API is used to query tasks.

### URI

GET /v3/{project\_id}/jobs

**Table 4-414** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .

**Table 4-415** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum records to be queried. Value range: 1 to 128. If the parameter value is not specified, 10 records are obtained by default.
start_time	Yes	Long	Query start time in timestamp format, in milliseconds. It cannot be earlier than 30 days prior to the current time.
end_time	Yes	Long	Query end time in timestamp format, in milliseconds.

## Request Parameters

**Table 4-416** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

Status code: 200

**Table 4-417** Response body parameters

Parameter	Type	Description
offset	Integer	Which page the server starts returning items
limit	Integer	Number of records displayed on each page
total	Integer	Total number
jobs	Array of <b>JobItem</b> objects	Task list

**Table 4-418** JobItem

Parameter	Type	Description
id	String	Task ID
name	String	Task name
status	String	Task execution status Values: <b>Running</b> : The task is being executed. <b>Completed</b> : The task is successfully executed. <b>Failed</b> : The task fails to be executed.
created_time	String	Creation time in the yyyy-mm-ddThh:mm:ssZ format. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Central European time zone, the offset is <b>+0100</b> .
end_time	String	End time. The format is yyyy-mm-ddThh:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Central European time zone, the offset is <b>+0100</b> .
process	String	Task execution progress The execution progress (such as <b>"60%"</b> , indicating the task execution progress is 60%) is displayed only when the task is being executed. Otherwise, <b>""</b> is returned.
instance_name	String	Instance name
instance_id	String	Instance ID
operations	Array of strings	Operations
database_name	String	Schema name
fail_reason	String	Failure cause

**Status code: 400**

**Table 4-419** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-420** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

Querying information about tasks

```
GET https://ddm.eu-de.otc.t-systems.com/v3/619d3e78f61b4be68bc5aa0b59edcf7b/jobs?
start_time=1746028800000&end_time=1747319097182
```

## Example Response

**Status code: 200**

```
{
  "jobs": [
    {
      "id": "92370d30-3ddc-4e05-b8ab-51662d824318",
      "name": "migrateLogicDb",
      "status": "ToBeSwitched",
      "created_time": "2025-05-20T15:05:13+0000",
      "end_time": "2025-05-20T15:05:13+0000",
      "process": "",
      "instance_name": "UTS-ddm-dtc-src",
      "instance_id": "733c7e8d73a54c27b8308ec784a8be8cin09",
      "operations": [
        "modifySwitchingStrategy",
        "toBeCanceled"
      ],
      "database_name": "db_e487",
      "fail_reason": ""
    },
    {
      "id": "10501cd3-0c19-498b-9ba4-8935ed447542",
      "name": "migrateLogicDb",
      "status": "Completed",
      "created_time": "2025-05-20T14:48:09+0000",
      "end_time": "2025-05-20T15:03:45+0000",
      "process": "",
      "instance_name": "UTS-ddm-dtc-src",
      "instance_id": "733c7e8d73a54c27b8308ec784a8be8cin09",
      "operations": [],
      "database_name": "db_e487",
      "fail_reason": ""
    }
  ]
}
```

```
{
  "id": "57933931-9323-422d-8f3d-20a62eb00c4e",
  "name": "CreateInstance",
  "status": "Completed",
  "created_time": "2025-05-20T07:51:47+0000",
  "end_time": "2025-05-20T07:56:54+0000",
  "process": "",
  "instance_name": "UTS-ddm-dtc-src",
  "instance_id": "733c7e8d73a54c27b8308ec784a8be8cin09",
  "operations": [],
  "database_name": "",
  "fail_reason": ""
}
],
"offset": 0,
"limit": 10,
"total": 3
}
```

**Status code: 400**

Bad request

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

**Status Codes**

Status Code	Description
200	OK
400	Bad request
500	Server error

**Error Codes**

For details, see [Error Codes](#).

**4.6 Monitoring**

## 4.6.1 Monitoring Slow Query Logs

### Function

This API is used to query the SQL statements that take a long time to execute on the DDM instance within a specified time range.

### Constraints

None

### URI

GET /v2/{project\_id}/instances/{instance\_id}/slowlog?  
curPage={curPage}&perPage={perPage}&startDate={startDate}&endDate={endDate}

**Table 4-421** Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

**Table 4-422** Query parameters

Parameter	Mandatory	Type	Description
curPage	Yes	String	Which page the server starts returning items. The start value cannot be less than 1.
perPage	Yes	String	Number of records displayed on each page
startDate	Yes	String	Start time. The format is UNIX timestamp, in milliseconds.
endDate	Yes	String	End time. The format is UNIX timestamp, in milliseconds. The interval between the start time and the end time must be no more than 7 days.

## Request Parameters

**Table 4-423** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

## Response Parameters

Status code: 200

**Table 4-424** Response body parameters

Parameter	Type	Description
totalRecord	Integer	Number of slow query logs
slowLogList	Array of <a href="#">SlowLogList</a> objects	Information about slow query logs

**Table 4-425** SlowLogList

Parameter	Type	Description
users	String	Username of the DDM account for executing the slow SQL statement
database	String	Name of the schema where the slow SQL statement is executed
querySample	String	Syntax for executing the slow SQL statement
logTime	String	Time when the slow SQL statement starts to be executed. The format is <b>yyyy-mm-ddThh:mm:ssZ</b> .
time	String	Time for a SQL statement to execute, accurate to milliseconds
shards	String	Name of the physical shard
rowsExamined	String	Number of rows affected by the SQL statements that take a long time to execute

Parameter	Type	Description
host	String	Client IP address. This IP address may involve personal data. Anonymizing the IP address data is recommended.

**Status code: 400**

**Table 4-426** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

**Status code: 500**

**Table 4-427** Response body parameters

Parameter	Type	Description
errCode	String	Service error code
externalMessage	String	Error message

### Example Request

Querying the SQL statements that take a long time to execute on the DDM instance within a specified time range

```
GET https://{endpoint}/v2/{project_id}/instances/{instance_id}/slowlog?
curPage={curPage}&perPage={perPage}&startDate={startDate}&endDate={endDate}
```

### Example Response

**Status code: 200**

OK

```
{
  "totalRecord": 2,
  "slowLogList": [ {
    "users": "testddm",
    "database": "test1",
    "querySample": "select id, sleep(3) from test",
    "logTime": "2021-04-26T02:40:21",
    "time": "12002",
    "shards": "test1_0000",
    "rowsExamined": "4",
```

```
"host" : "192.168.16.18"  
}]  
}
```

**Status code: 400**

bad request

```
{  
  "externalMessage" : "Parameter error.",  
  "errCode" : "DBS.280001"  
}
```

**Status code: 500**

server error

```
{  
  "externalMessage" : "Server failure.",  
  "errCode" : "DBS.200412"  
}
```

## Status Codes

Status Code	Description
200	OK
400	bad request
500	server error

## Error Codes

For details, see [Error Codes](#).

# 4.7 Session Management

## 4.7.1 Querying Logical Sessions (a V3 API)

### Function

This API is used to obtain logical sessions of a DDM instance.

### Constraints

None

### URI

- URL format  
GET /v3/{project\_id}/instances/{instance\_id}/logical-processes?  
offset={offset}&limit={limit}

- Parameter description

**Table 4-428** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

**Table 4-429** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.
limit	No	Integer	Maximum records to be queried. Value range: 1 to 128. If the parameter value is not specified, 10 records are obtained by default.
keyword	No	String	Keyword filtered by the session result. It is a fuzzy match field and can contain a maximum of 255 characters.

## Request

- Request Parameters  
None
- URI example  
GET `https://{endpoint}/v3/{project_id}/instances/{instance_id}/logical-processes?offset=0&limit=10`

## Response

- Normal response

**Table 4-430** Response body parameters

Parameter	Type	Description
total_count	Integer	Total records.
logical_processes	Array of <a href="#">Table 4-431</a> objects	Logical session list of a DDM instance.

**Table 4-431** logicalProcessesInfo

Parameter	Type	Description
id	String	Logical session ID.
user	String	Current user.
host	String	IP address and port number.
db	String	Database name.
command	String	Connection status. Generally, the value can be <b>sleep</b> , <b>query</b> , or <b>connect</b> .
time	String	Duration of a connection, in seconds.
state	String	Status of the SQL statement being executed.
info	String	SQL statement that is being executed.

- Normal response example

```
{
  "logical_processes": [
    {
      "id": "4564224",
      "user": "drdsagent",
      "host": "127.0.0.1:54486",
      "db": "None",
      "command": "Query",
      "time": "0",
      "state": "starting",
      "info": "show processlist"
    }
  ],
  "total_count": 1
}
```

- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.7.2 Killing Logical Sessions (a V3 API)

### Function

This API is used to delete logical sessions of a DDM instance.

### Constraints

None

### URI

- URL format  
DELETE /v3/{project\_id}/instances/{instance\_id}/logical-processes
- Parameter description

**Table 4-432** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

### Request Parameters

**Table 4-433** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-434** Parameter description

Parameter	Mandatory	Type	Description
process_ids	Yes	Array of strings	Session ID set. Value range: 1 to 100.

## Example Request

This API is used to delete logical sessions of a DDM instance.

```
DELETE https://{endpoint}/v3/{project_id}/instances/{instance_id}/logical-processes
{
  "process_ids": [
    "12312"
  ]
}
```

## Response

- Normal response

**Table 4-435** Response body parameters

Parameter	Type	Description
resp	String	Check whether a logical session is deleted.

- Normal response example

```
{
  "resp": "successful"
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.7.3 Querying Physical Sessions (a V3 API)

### Function

This API is used to obtain physical sessions of a DDM instance.

### Constraints

None

### URI

- URL format  
GET /v3/{project\_id}/instances/{instance\_id}/physical-processes?  
offset={offset}&limit={limit}

- Parameter description

**Table 4-436** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	ID of the associated RDS DB instance.

**Table 4-437** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.
limit	No	Integer	Maximum records to be queried. Value range: 1 to 128. If the parameter value is not specified, 10 records are obtained by default.
keyword	No	String	Keyword filtered by the session result. It is a fuzzy match field and can contain a maximum of 255 characters.

## Request

- Request Parameters

None

- URI example

GET https://{endpoint}/v3/{project\_id}/instances/{instance\_id}/physical-processes?offset=0&limit=10

## Response

- Normal response

**Table 4-438** Response body parameters

Parameter	Type	Description
total_count	Integer	Total records.
physical_processes	Array of <a href="#">Table 4-439</a> objects	Physical session list of a DDM instance.

**Table 4-439** PhysicalProcessInfo

Parameter	Type	Description
id	Long	Physical session ID.
user	String	Current user.
host	String	IP address and port number.
db	String	Database name.
command	String	Connection status. Generally, the value can be <b>sleep</b> , <b>query</b> , or <b>connect</b> .
time	Long	Duration of a connection, in seconds.
state	String	Status of the SQL statement being executed.
info	String	SQL statement that is being executed.
trx_executed_time	Long	Duration of a transaction, in seconds.

- Normal response example

```
{
  "physical_processes": [
    {
      "id": 1973,
      "user": "DDMRW1613058863",
      "host": "172.16.241.84:58908",
      "db": "ddm_db_test_0001",
      "state": "",
      "command": "Sleep",
      "info": null,
      "time": 13977,
      "trx_executed_time": 0
    }
  ],
  "total_count": 1
}
```

- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200

- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.7.4 Killing Physical Sessions (a V3 API)

### Function

This API is used to delete physical sessions of a DDM instance.

### Constraints

None

### URI

- URL format  
DELETE /v3/{project\_id}/instances/{instance\_id}/physical-processes
- Parameter description

**Table 4-440** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	ID of the associated RDS DB instance.

### Request Parameters

**Table 4-441** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-442** Parameter description

Parameter	Mandatory	Type	Description
process_ids	Yes	Array of strings	Session ID set. Value range: 1 to 100.

## Example Request

Delete a physical session of a DDM instance.

```
DELETE https://{endpoint}/v3/{project_id}/instances/{instance_id}/physical-processes
{
  "process_ids": [
    "43534"
  ]
}
```

## Response

- Normal response

**Table 4-443** Response body parameters

Parameter	Type	Description
resp	String	Check whether the physical session is deleted.

- Normal response example

```
{
  "resp": "successful"
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.7.5 Querying Audit Logs of Killing Sessions (a V3 API)

### Function

Obtaining Audit Logs of Killing Sessions

## Constraints

None

## URI

- URL format  
GET /v3/{project\_id}/instances/{instance\_id}/processes-audit-log?  
offset={offset}&limit={limit}&start\_time={start\_time}&end\_time={end\_time}
- Parameter description

**Table 4-444** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID or ID of the associated RDS instance.

**Table 4-445** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.
limit	No	Integer	Maximum records to be queried. Value range: 1 to 128. If the parameter value is not specified, 10 records are obtained by default.

Parameter	Mandatory	Type	Description
start_time	Yes	String	Start time in UTC, accurate to milliseconds. The format is yyyy-mm-ddThh:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> .
end_time	Yes	String	End time in UTC, accurate to milliseconds. The format is yyyy-mm-ddThh:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> . The interval between the start time and the end time must be no more than 7 days.

## Request

- Request Parameters

None

- URI example

GET https://{endpoint}/v3/{project\_id}/instances/{instance\_id}/processes-audit-log?  
start\_time=2024-06-18T09:00:00+0800&end\_time=2024-06-18T12:00:00+0800&offset=0&limit=10

## Response

- Normal response

**Table 4-446** Response body parameters

Parameter	Type	Description
total_count	Integer	Total records.
process_audit_logs	Array of <a href="#">Table 4 UserProcess AuditLog</a> objects	Audit log list of killing a session.

**Table 4-447** UserProcessAuditLog

Parameter	Type	Description
instance_id	String	Instance ID.
instance_name	String	Instance name.
process_id	String	Session ID.
execute_user_name	String	Name of the user who performs the operation.
execute_time	String	Operation time (UTC time).

- Normal response example

```
{
  "total_count": 1,
  "process_audit_logs": [
    {
      "instance_id": "5af0884170a84164980f79f9f5bf230c****",
      "instance_name": "UTS-ddm-name",
      "process_id": 123456,
      "execute_user_name": "user_name",
      "execute_time": "2024-06-18T03:08:15+0800"
    }
  ]
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

# 4.8 Version Management

## 4.8.1 Querying a DDM Kernel Version That Can Be Changed (a V3 API)

### Function

Obtain a DDM kernel version that can be changed.

## Constraints

None

## URI

- URL format  
GET /v3/{project\_id}/instances/{instance\_id}/database-version/available-versions
- Parameter description

**Table 4-448** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-449** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

## Example Request

Obtain a DDM kernel version that can be changed.

```
GET https://{endpoint}/v3/{project_id}/instances/{instance_id}/database-version/available-versions
```

## Response

- Normal response

**Table 4-450** Response body parameters

Parameter	Type	Description
versions	Array of strings	Kernel version that can be changed.

Parameter	Type	Description
current_version	String	Current kernel version of the DDM instance.
latest_version	String	Latest preferred kernel version, which can be changed.
current_favored_version	String	Preferred version in a series, which can be changed. For example, version 3.0.8.5 is the preferred version in the 3.0.8 series.
previous_version	String	Source version of the DDM instance before the latest upgrade.

- Normal response example

```
{
  "versions": [
    "3.1.0.7"
  ],
  "current_version": "3.0.8.5",
  "latest_version": "3.1.0.7",
  "current_favored_version": "3.0.8.5",
  "previous_version": "3.0.8.3"
}
```

- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.8.2 Changing a DDM Kernel Version (a V3 API)

### Function

Change a DDM kernel version in the following ways:

- Version upgrade: Select a kernel version later than that of the DDM instance and perform the upgrade.
- Version downgrade: Select a kernel version earlier than that of the DDM instance and perform the downgrade.

### Constraints

None

## URI

- URL format  
POST /v3/{project\_id}/instances/{instance\_id}/database-version/change-version
- Parameter description

**Table 4-451** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-452** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-453** Parameter description

Parameter	Mandatory	Type	Description
target_version	Yes	String	Target version.

## Example Request

Change a DDM kernel version.

```
POST https://{endpoint}/v3/{project_id}/instances/{instance_id}/database-version/change-version
{
  "target_version": "3.0.8.5"
}
```

## Response

- Normal response

**Table 4-454** Response body parameters

Parameter	Type	Description
instance_id	String	DDM instance ID.
job_id	String	Task ID of changing a kernel version.

- Normal response example

```
{  
  "instance_id" : "28e8841d0b9c4f6a9a30742ee60e1055****",  
  "job_id" : "1eb697c0-1842-43a3-8671-f562d038****"  
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Code

- Normal

202

- Abnormal

For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.8.3 Rolling Back a DDM Kernel Version (a V3 API)

### Function

Roll back a DDM kernel version. After a DDM instance is upgraded to a new version, the kernel version can be rolled back to the version before the last update.

### Constraints

None

### URI

- URL format

POST /v3/{project\_id}/instances/{instance\_id}/database-version/rollback-version

- Parameter description

**Table 4-455** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-456** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

## Example Request

Roll back a DDM kernel version.

```
POST https://{endpoint}/v3/{project_id}/instances/{instance_id}/database-version/rollback-version
```

## Response

- Normal response

**Table 4-457** Response body parameters

Parameter	Type	Description
instance_id	String	DDM instance ID.
job_id	String	Task ID for rolling back a kernel version.

- Normal response example

```
{
  "instance_id" : "28e8841d0b9c4f6a9a30742ee60e1055****",
  "job_id" : "1eb697c0-1842-43a3-8671-f562d038****"
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.8.4 Reminding Users of Risks for a DDM Kernel Version (a V3 API)

### Function

Remind users of risks for a DDM kernel version.

### Constraints

None

### URI

- URL format  
GET /v3/{project\_id}/instances/{instance\_id}/show-risk-info
- Parameter description

**Table 4-458** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

### Request Parameters

**Table 4-459** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token.

## Example Request

Remind users of risks for a DDM kernel version.

GET https://{endpoint}/v3/{project\_id}/instances/{instance\_id}/show-risk-info

## Response

- Normal response

**Table 4-460** Response body parameters

Parameter	Type	Description
risks	Array of <a href="#">RiskInfo</a> objects	Kernel risk information

**Table 4-461** RiskInfo

Parameter	Type	Description
instance_id	String	Instance ID
engine_name	String	Engine name
engine_version	String	Current engine version
level	Integer	Risk level
suggest	String	Upgrade reason
influence	String	Upgrade impact
guidance	String	Guidance link
service_impact_duration	String	Service impact duration
upgrade_duration	String	Upgrade duration

- Normal response example

```
{
  "risks": [
    {
      "instance_id": "d697f4a676d64e68a323711e559b021din09",
      "engine_name": "ddm",
      "engine_version": "3.1.0.3",
      "level": 1,
      "suggest": "MySQL clients cannot end queries occasionally. Upgrading the version to 3.1.0.7 at off-peak hours is recommended.",
      "influence": "Multiple nodes of a DDM instance are upgraded in rolling mode. There will be a brief interruption (seconds) that the applications can detect. To minimize the impact, perform the
```

```
upgrade during off-peak hours and ensure that your applications support automatic reconnection.",
  "guidance": "https://support.huaweicloud.com/usermanual-ddm/ddm_06_0042.html",
  "service_impact_duration": "The interruption is less than 60s for regular workloads.",
  "upgrade_duration": "The upgrade duration depends on how many instance nodes are upgraded.
Upgrading a single node takes about 5 minutes."
}
]
}
```

- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

# 4.9 Backup Management

## 4.9.1 Querying Backups

### Function

This API is used to query backups.

### Constraints

None

### URI

GET /v3/{project\_id}/backups

**Table 4-462** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .

**Table 4-463** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.
limit	No	Integer	Maximum records to be queried. Value range: 1 to 128. If the parameter value is not specified, 10 records are obtained by default.

## Request Parameters

### Example Request

This API is used to query backups.

```
GET https://{endpoint}/v3/project_id/backups?offset=0&limit=10
```

## Response

- Normal response

**Table 4-464** Response body parameters

Parameter	Type	Description
backups	Array of <b>BackupInfo</b> objects	Backup list.
offset	Integer	Which page the server starts returning items
limit	Integer	Number of records displayed on each page
total	Integer	Total number of backup records

**Table 4-465** BackupInfo

Parameter	Type	Description
id	String	Backup ID

Parameter	Type	Description
name	String	Parameter template name
description	String	Parameter template description
status	String	Backup status
instance_id	String	Instance ID
instance_name	String	Instance name
instance_status	String	Instance status
file_size	Double	Backup size, in KB
created	String	Creation time. The format is yyyy-MM-ddTHH:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> .
updated	String	Update time. The format is yyyy-MM-ddTHH:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> .
backup_type	String	Backup type: <b>auto_metadata</b> : Metadata backup is triggered by a scheduled task every day. <b>metadata</b> : Metadata backup is not triggered by a scheduled task. For example, metadata is backed up before instance deletion.

- Normal response example

```
{
  "backups": [
    {
      "id": "c131f9339****5cdebe350228br09",
      "name": "Backup",
      "description": "auto metadata backup",
      "status": "normal",
      "instance_id": "169f4f2fd6****04385a18ain09",
      "instance_name": "ddm-test",
      "instance_status": "normal",
      "file_size": 5.419922,
      "created": "2025-02-19T02:50:20+0000",
      "updated": "2025-02-19T02:50:37+0000",
      "backup_type": "auto_metadata"
    }
  ],
}
```

```
"total": 1,  
"offset": 0,  
"limit": 10  
}
```

- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.9.2 Deleting a Backup

### Function

This API is used to delete a specified backup.

### Constraints

None

### URI

DELETE /v3/{project\_id}/backups/{backup\_id}

**Table 4-466** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
backup_id	Yes	String	Backup ID

## Request Parameters

**Table 4-467** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

## Example Request

Deleting a specified backup

```
DELETE https://{endpoint}/v3/{project_id}/backups/{backup_id}
```

## Response

- Normal response

**Table 4-468** Response body parameters

Parameter	Type	Description
job_id	String	Job ID

- Normal response example
 

```
{
  "job_id" : "9fe84a77-6a6b-4b03-9a3e-db910a548657"
}
```
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.9.3 Querying Backup Details (a V3 API)

### Function

This API is used to query backup details.

## URI

GET /v3/{project\_id}/instances/{instance\_id}/backups/{backup\_id}

**Table 4-469** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region
instance_id	Yes	String	Instance ID
backup_id	Yes	String	Backup ID

## Request Parameters

**Table 4-470** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

Status code: 200

**Table 4-471** Response body parameters

Parameter	Type	Description
id	String	Backup ID
name	String	Backup name
instance_id	String	Instance ID
instance_name	String	Instance name
related_data_nodes	Array of <b>RelatedDn</b> objects	Associated data nodes

**Table 4-472** RelatedDn

Parameter	Type	Description
instance_id	String	Data node ID
instance_name	String	Data node name

**Status code: 400**

**Table 4-473** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-474** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

Querying backup details

```
GET https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/backups/cfea30126a884f46887b4e9211460fc1br09
```

## Example Response

**Status code: 200**

```
{
  "id": "09902ee7866649b8908ec209bfee2747br09",
  "name": "Backup-ddm-diagnose3-2u8g-1-4bfGfxqdESTHbkKm5XrWLg-2025052005400",
  "instance_id": "34970585d4964f2a8d6d9ea8d303398bin09",
  "instance_name": "ddm-diagnose3-2u8g-1-4bfGfxqdESTHbkKm5XrWLg",
  "related_data_nodes": [
    {
      "instance_id": "fc33739e5d2741529e21d87a7b5923fain01",
      "instance_name": "mysql_rds_related_ddm_for_diagnose3_01"
    }
  ]
}
```

**Status code: 400**

Bad request

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

## Status Codes

Status Codes	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.9.4 Querying Data Nodes Associated with an Instance at a Restoration Time Point (a V3 API)

### Function

This API is used to query data nodes associated with an instance at a restoration time point.

### URI

GET /v3/{project\_id}/instances/{instance\_id}/backups/related-dn

**Table 4-475** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

**Table 4-476** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.
limit	No	Integer	Maximum records to be queried. Value range: <b>1 to 128</b> If the parameter value is not specified, 10 records are queried by default.
restore_time	Yes	String	Point in time to which the tables are restored.

## Request Parameters

**Table 4-477** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

Status code: 200

**Table 4-478** Response body parameters

Parameter	Type	Description
related_data_nodes	Array of <b>RelatedDnVO</b> objects	Associated data nodes

Parameter	Type	Description
latest_restorable_time	String	Latest restoration point in time
offset	Integer	Which page the server starts returning items
limit	Integer	Number of records displayed on each page
total	Integer	Total number of records

**Table 4-479** RelatedDnVO

Parameter	Type	Description
instance_id	String	Data node ID
instance_name	String	Data node name
instance_status	String	Data node status
data_volume_size	Number	Disk size
version	String	Version
engine_name	String	Engine name

**Status code: 400**

**Table 4-480** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-481** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

```
GET https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/  
1f5c9fd6cd984056ba89c8c87cc03278in09/backups/related-dn?restore_time=1747728424956
```

## Example Response

**Status code: 200**

```
{  
  "related_data_nodes": [{  
    "instance_name": "UTS-dtc-mysql_80_4u8g_single_2",  
    "instance_id": "41c239a1e9bd4cd2aabd678bab45a886in01",  
    "instance_status": "abnormal",  
    "data_volume_size": 40000000000,  
    "version": "8.0.32",  
    "engine_name": "mysql"  
  }],  
  "latest_restorable_time": "2025-05-27T02:38:15+0000",  
  "offset": 0,  
  "limit": 100,  
  "total": 1  
}
```

**Status code: 400**

Bad request

```
{  
  "error_msg": "Parameter error.",  
  "error_code": "DBS.280001"  
}
```

**Status code: 500**

Server error

```
{  
  "error_msg": "Parameter error.",  
  "error_code": "DBS.280001"  
}
```

## Status Codes

Status Codes	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.9.5 Querying the Restoration Time Range (a V3 API)

### Function

This API is used to query the restoration time range of an instance.

### URI

GET /v3/{project\_id}/instances/{instance\_id}/backups/restorable-time-interval

**Table 4-482** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

**Table 4-483** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	<b>Definition</b> Which page the server starts returning items <b>Constraints</b> N/A <b>Range</b> The value is greater than or equal to <b>0</b> . <b>Default Value</b> <b>0</b>
limit	No	Integer	<b>Definition</b> Number of records on each page <b>Constraints</b> N/A <b>Range</b> The value is greater than <b>0</b> and less than or equal to <b>128</b> . <b>Default Value</b> <b>10</b>

## Request Parameters

**Table 4-484** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

Status code: 200

**Table 4-485** Response body parameters

Parameter	Type	Description
restorable_time_intervals	Array of <a href="#">RestoreTimeInterval</a> objects	Restoration time point.
offset	Integer	Which page the server starts returning items
limit	Integer	Number of records displayed on each page
total	Integer	Total number of records

**Table 4-486** RestoreTimeInterval

Parameter	Type	Description
start_time	String	Start time in UTC, accurate to milliseconds. The format is <i>yyyy-mm-ddThh:mm:ssZ</i> . <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> .

Parameter	Type	Description
end_time	String	End time in UTC, accurate to milliseconds. The format is <i>yyyy-mm-ddThh:mm:ssZ</i> . <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> .

**Status code: 400**

**Table 4-487** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-488** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

Querying the restoration time range

```
GET https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/1f5c9fd6cd984056ba89c8c87cc03278in09/backups/restorable-time-interval
```

## Example Response

**Status code: 200**

```
{
  "restorable_time_intervals": [{
    "start_time": "2025-05-20T09:40:40+0000",
    "end_time": "2025-05-21T11:15:43+0000"
  }],
  "offset": 0,
  "limit": 10,
  "total": 1
}
```

**Status code: 400**

Bad request

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

## Status Codes

Status Codes	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

### 4.9.6 Querying Data Nodes Available to Restore Data to a Point in Time (a V3 API)

#### Function

This API is used to query data nodes available to restore data to a point in time.

#### URI

GET /v3/{project\_id}/instances/{instance\_id}/backups/restorable-data-node

**Table 4-489** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

**Table 4-490** Query parameters

Parameter	Mandatory	Type	Description
target_instance_id	Yes	String	Target instance ID.
source_dn_instance_id	Yes	String	Source data node ID.
restore_time	Yes	String	Point in time to which the tables are restored.
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.
limit	No	Integer	Maximum records to be queried. Value range: <b>1 to 128</b> If the parameter value is not specified, 10 records are queried by default.

## Request Parameters

**Table 4-491** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

Status code: 200

**Table 4-492** Response body parameters

Parameter	Type	Description
target_data_nodes	Array of <a href="#">TargetDn4Restore</a> objects	Target available data nodes.

**Table 4-493** TargetDn4Restore

Parameter	Type	Description
instance_name	String	Instance name
instance_id	String	Instance ID
engine_name	String	Engine name
status	String	Status.
available	Boolean	Available or not
unavailable_reason	String	Reason why the instance cannot be used.
vpc_name	String	VPC name.
private_ip	String	Private IP address.

**Status code: 400**

**Table 4-494** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-495** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

Querying data nodes available for restoration

```
GET https://{endpoint}/v3/74f57817ca8f42e19318eb0e0ad41d18/instances/733c7e8d73a54c27b8308ec784a8be8cin09/backups/restorable-data-node?source_dn_instance_id=41c239a1e9bd4cd2aab678bab45a886in01&target_instance_id=2f0324a93859487eb5566d75951fcd2din09&restore_time=1747730765390
```

## Example Response

**Status code: 200**

```
{
  "target_data_nodes": [{
    "instance_name": "rds-f0e2",
    "instance_id": "55c26c79139446868919c5b8b2cbb542in01",
    "engine_name": "mysql",
    "status": "normal",
    "available": true,
    "unavailable_reason": "",
    "vpc_name": "vpc-ddm-172",
    "private_ip": "172.16.248.115"
  }, {
    "instance_name": "mysql_80_4u8g_single_2",
    "instance_id": "c5ee103325294f37a8a42e88ba51947ain01",
    "engine_name": "mysql",
    "status": "normal",
    "available": true,
    "unavailable_reason": "",
    "vpc_name": "vpc-ddm-172",
    "private_ip": "172.16.192.156"
  }],
  "offset": 0,
  "limit": 2,
  "total": 192
}
```

**Status code: 400**

Bad request

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

## Status Codes

Status Codes	Description
200	OK
400	Bad request

Status Codes	Description
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.9.7 Querying Instances That Can Be Used for Restoration (a V3 API)

### Function

This API is used to query instances that can be used for restoration.

### URI

GET /v3/{project\_id}/instances/{instance\_id}/backups/restorable-instances

**Table 4-496** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

**Table 4-497** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum records to be queried. Value range: <b>1 to 128</b> If the parameter value is not specified, 10 records are queried by default.

## Request Parameters

**Table 4-498** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

**Status code: 200**

**Table 4-499** Response body parameters

Parameter	Type	Description
instances	Array of <a href="#">DDMInstance4Restore</a> objects	Target available DDM instances.

**Table 4-500** DDMInstance4Restore

Parameter	Type	Description
instance_name	String	Instance name
instance_id	String	Instance ID
status	String	Status.
available	Boolean	Available or not

Parameter	Type	Description
unavailable_reason	String	Reason why the instance cannot be used.
vpc_name	String	VPC name.

**Status code: 400**

**Table 4-501** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-502** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

## Example Request

```
GET https://{endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/1f5c9fd6cd984056ba89c8c87cc03278in09/backups/restorable-instances
```

## Example Response

**Status code: 200**

```
{
  "instances": [
    {
      "instance_id": "3b65c609427c4b20bc0ae93e161dc7adin09",
      "instance_name": "ddm-agent-create-instance1",
      "status": "normal",
      "available": true,
      "unavailable_reason": "",
      "vpc_name": "vpc-ddm-172"
    }
  ],
  "offset": 0,
  "limit": 10,
  "total": 1
}
```

**Status code: 400**

Bad request

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

## Status Codes

Status Codes	Description
200	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.9.8 Restoring Metadata (a V3 API)

### Function

This API is used to restore metadata.

### URI

POST /v3/{project\_id}/instances/{instance\_id}/backups/metadata-recovery

**Table 4-503** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

## Request Parameters

**Table 4-504** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

**Table 4-505** Request body parameters

Parameter	Mandatory	Type	Description
source	Yes	<a href="#">RestoreMetaDataSource</a> object	Source instance for metadata restoration.
target	Yes	<a href="#">RestoreMetaDataTarget</a> object	Target instance for metadata restoration.

**Table 4-506** RestoreMetaDataSource

Parameter	Mandatory	Type	Description
restore_time	No	Number	Restoration timestamp, accurate to milliseconds. (Either <b>backup_id</b> or <b>restore_time</b> needs to be specified.)
backup_id	No	String	Backup ID. (Either <b>restore_time</b> or <b>backup_id</b> needs to be specified.)

**Table 4-507** RestoreMetaDataTarget

Parameter	Mandatory	Type	Description
data_nodes	Yes	Array of strings	Target data nodes. They can be obtained from <a href="#">Querying Data Nodes Available to Restore Data to a Point in Time (a V3 API)</a> .  The data nodes are in the same VPC and subnet as the DDM instance and can communicate with the DDM instance.  Data nodes where PITR has been completed.
instance_id	Yes	String	Target instance ID. It can be obtained from <a href="#">Querying Instances That Can Be Used for Restoration (a V3 API)</a> .

## Response Parameters

**Status code: 202**

**Table 4-508** Response body parameters

Parameter	Type	Description
job_id	String	Task ID.

**Status code: 400**

**Table 4-509** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-510** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

### Example Request

```
POST https://{endpoint}/v3/{project_id}/instances/{instance_id}/backups/metadata-recovery
{
  "source": {
    "backup_id": "defa45b24d314e878fde930a61732e9dbr09"
  },
  "target": {
    "instance_id": "2f0324a93859487eb5566d75951fcd2din09",
    "data_nodes": [
      "f4e2949e9b9b4d60b42c89ed39bfe34cin01"
    ]
  }
}
```

### Example Response

**Status code: 202**

```
{
  "job_id": "09902ee7866649b8908ec209bfee2747"
}
```

**Status code: 400**

Bad request

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

### Status Codes

Status Codes	Description
202	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

## 4.9.9 Restoring Data to a New Instance (a V3 API)

### Function

This API is used to restore data to a new instance.

### URI

POST /v3/{project\_id}/instances/{instance\_id}/backups/recovery

**Table 4-511** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

### Request Parameters

**Table 4-512** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

**Table 4-513** Request body parameters

Parameter	Mandatory	Type	Description
source	Yes	<a href="#">RestoreInstSource</a> object	Source instance for data restoration.
target	Yes	<a href="#">RestoreInstTarget</a> object	Target instance for data restoration.

Parameter	Mandatory	Type	Description
data_node_relations	Yes	Array of <a href="#">DataNodeRelation</a> objects	Associated data nodes.

**Table 4-514** RestoreInstSource

Parameter	Mandatory	Type	Description
restore_time	Yes	Number	Point in time to which the tables are restored.

**Table 4-515** RestoreInstTarget

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.

**Table 4-516** DataNodeRelation

Parameter	Mandatory	Type	Description
source_instance_id	Yes	String	Source data node ID. It can be obtained from <a href="#">Querying Data Nodes Associated with an Instance at a Restoration Time Point (a V3 API)</a> .
target_instance_id	Yes	String	Target data nodes. They can be obtained from <a href="#">Querying Data Nodes Available to Restore Data to a Point in Time (a V3 API)</a> .

## Response Parameters

Status code: 202

**Table 4-517** Response body parameters

Parameter	Type	Description
job_id	String	Task ID.

**Status code: 400**

**Table 4-518** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Status code: 500**

**Table 4-519** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

**Example Request**

```
POST https://{endpoint}/v3/{project_id}/instances/{instance_id}/backups/recovery
{
  "source": {
    "restore_time": 1747732352076
  },
  "target": {
    "instance_id": "2f0324a93859487eb5566d75951fcd2din09"
  },
  "data_node_relations": [ {
    "source_instance_id": "f4e2949e9b9b4d60b42c89ed39bfe34cin01",
    "target_instance_id": "f4e2949e9b9b4d60b42c89ed39bfe34cin01"
  } ]
}
```

**Example Response**

**Status code: 202**

```
{
  "job_id": "09902ee7866649b8908ec209bfee2747"
}
```

**Status code: 400**

Bad request

```
{
  "error_msg": "Parameter error.",
  "error_code": "DBS.280001"
}
```

**Status code: 500**

Server error

```
{
  "error_msg": "Parameter error.",
}
```

```
"error_code" : "DBS.280001"  
}
```

## Status Codes

Status Codes	Description
202	OK
400	Bad request
500	Server error

## Error Codes

For details, see [Error Codes](#).

# 4.10 Parameter Management

## 4.10.1 Obtaining Parameter Templates

### Function

This API is used to obtain parameter templates, including all default and custom parameter templates.

### Constraints

None

### URI

- URL format

GET /v3/{project\_id}/configurations

- Parameter description

**Table 4-520** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .

**Table 4-521** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is <b>0</b> by default. The value must be a non-negative number.
limit	No	Integer	Maximum records to be queried. Value range: 1 to 128. If the parameter value is not specified, 10 records are obtained by default.

## Request Parameters

None

## Example Request

Obtaining parameter templates

```
GET https://{endpoint}/v3/project_id/configurations?offset=0&limit=10
```

## Response

- Normal response

**Table 4-522** Response body parameters

Parameter	Type	Description
configurations	Array of <b>Configuratio nInfo</b> objects	Information of available engines
offset	Integer	Which page the server starts returning items
limit	Integer	Number of records displayed on each page
total	Integer	Number of engine versions

**Table 4-523** ConfigurationInfo

Parameter	Type	Description
id	String	Parameter template ID
name	String	Parameter template name
description	String	Parameter template description
datastore_name	String	Database type
created	String	Creation time. The format is yyyy-MM-ddTHH:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> .
updated	String	Update time. The format is yyyy-MM-ddTHH:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> .
user_defined	Boolean	Whether the parameter template is a custom template. The value can be: <b>false</b> : The parameter template is a default template. <b>true</b> : The parameter template is a custom template.

- Normal response example

```
{
  "configurations": [
    {
      "id": "2aa71dc81e2c47699229b7aa26038f9dpr09",
      "name": "ddm-param1724812533",
      "description": "",
      "datastore_name": "ddm",
      "created": "2021-12-14T07:46:22+0000",
      "updated": "2021-12-14T07:46:22+0000",
      "user_defined": false
    }
  ],
  "offset": 0,
  "limit": 10,
  "total": 1
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.10.2 Obtaining Parameters in a Specified Parameter Template

### Function

This API is used to obtain information about a specified parameter template.

### Constraints

None

### URI

- URL format  
GET /v3/{project\_id}/configurations/{config\_id}
- Parameter description

**Table 4-524** Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see <a href="#">Obtaining a Project ID</a> .
config_id	Yes	String	Parameter template ID. When this parameter is left empty (not space), the URL of the parameter template list is obtained. For details, see <a href="#">Obtaining Parameter Templates</a> .

### Request Parameters

None

## Example Request

This API is used to obtain information about a specified parameter template.

GET https://{endpoint}/v3/{project\_id}/configurations/{config\_id}

## Response

- Normal response

**Table 4-525** Response body parameters

Parameter	Type	Description
id	String	Parameter template ID
name	String	Parameter template name
datastore_name	String	Database name
description	String	Description
created	String	Creation time. The format is yyyy-MM-ddTHH:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> .
updated	String	Update time. The format is yyyy-MM-ddTHH:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> .
configuration_parameters	Array of <a href="#">Configuration Parameters</a> objects	Parameters defined by users based on a default parameter template

**Table 4-526** ConfigurationParameters

Parameter	Type	Description
name	String	Parameter name
value	String	Parameter value
restart_required	Boolean	Whether a restart is required. The value can be: <ul style="list-style-type: none"> <li>• <b>false</b>: indicates that a restart is not required.</li> <li>• <b>true</b>: indicates that a restart is required.</li> </ul>

Parameter	Type	Description
readonly	Boolean	Whether the parameter is read-only. The value can be: <ul style="list-style-type: none"> <li>• <b>false</b>: indicates that the parameter is not read-only.</li> <li>• <b>true</b>: indicates that the parameter is read-only.</li> </ul>
value_range	String	Indicates the parameter value range. If the type is <b>integer</b> , the value is <b>0</b> or <b>1</b> . If the type is <b>boolean</b> , the value is <b>true</b> or <b>false</b> .
type	String	Parameter type. The value can be <b>string</b> , <b>integer</b> , <b>boolean</b> , <b>list</b> , or <b>float</b> .
description	String	Parameter description

- Normal response example

```
{
  "id": "07fc12a8e0e94df7a3fcf53d0b5e1605pr01",
  "name": "default-ddm-test",
  "datastore_name": "ddm",
  "description": "Default parameter group for ddm-test",
  "created": "2020-05-05T04:40:51+0800",
  "updated": "2020-05-05T04:40:51+0800",
  "configuration_parameters": [
    {
      "name": "auto_increment_increment",
      "value": "1",
      "restart_required": false,
      "readonly": true,
      "value_range": "1-65535",
      "type": "integer",
      "description": "auto_increment_increment and auto_increment_offset are intended for use with master-to-master replication, and can be used to control the operation of AUTO_INCREMENT columns."
    },
    {
      "name": "autocommit",
      "value": "ON",
      "restart_required": false,
      "readonly": true,
      "value_range": "ON|OFF",
      "type": "boolean",
      "description": "The autocommit mode. If set to ON, all changes to a table take effect immediately. If set to OFF, you must use COMMIT to accept a transaction or ROLLBACK to cancel it. "
    }
  ]
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
200

- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.10.3 Modifying Parameters of an Instance

### Function

This API is used to modify parameters of a DDM instance.

### Constraints

The values of the modified parameters must be within the value range defined on the DDM console. For details about the range of parameter values, see [Modifying Parameters of a DDM Instance](#) in *Distributed Database Middleware User Guide*.

### URI

PUT /v3/{project\_id}/instances/{instance\_id}/configurations

**Table 4-527** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

### Request Parameters

**Table 4-528** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-529** Request body parameters

Parameter	Mandatory	Type	Description
values	Yes	<b>values</b> object Map<String,String>	Parameter values defined by users based on a default parameter template. <ul style="list-style-type: none"> <li>• <b>key</b>: parameter name. If a parameter name is left empty, its value is not to be changed.</li> <li>• <b>value</b>: indicates the parameter value.</li> </ul>

**Table 4-530** values

Parameter	Mandatory	Type	Description
bind_table	No	String	Data association among multiple sharded tables. The optimizer processes JOIN operations at the MySQL layer based on these associations. The format is [{tb.col1,tb2.col2},{tb.col2,tb3.col1},...].
character_set_server	No	String	DDM server's character set. To store emoticons, set both this parameter and the character set on RDS to utf8mb4. To modify the character set, you must change the collation of the DDM server correspondingly.
collation_server	No	String	Collation on the DDM server. To modify the collation, you must modify the server's character set correspondingly.

Parameter	Mandatory	Type	Description
concurrent_execution_level	No	String	Concurrency level of scanning table shards in a logical table. <b>DATA_NODE</b> : indicates that database shards are scanned in parallel and table shards in each database shard are scanned in serial. <b>RDS_INSTANCE</b> : indicates that RDS instances are scanned in parallel and shards in each DB instance are scanned in serial. <b>PHY_TABLE</b> : indicates that all table shards are scanned in parallel.
connection_idle_timeout	No	String	Number of seconds the server waits for activity on a connection before closing it. The value ranges from <b>60</b> to <b>28800</b> . The default value is <b>28800</b> , indicating that the server waits for 28800 seconds before closing a connection.
enable_table_recycle	No	String	Whether the table recycle bin is enabled.
insert_to_load_data	No	String	Whether the constant values are inserted by executing the LOAD DATA statement.
live_transaction_timeout_on_shutdown	No	String	Timeout limit of an in-transit transaction, in seconds. The value ranges from <b>0</b> to <b>100</b> . The default value is <b>1</b> , indicating that the server waits for 1 second before closing the connection.
long_query_time	No	String	Minimum duration of a query to be logged as slow, in seconds. The value ranges from <b>0.01</b> to <b>10</b> . The default value is <b>1</b> , indicating that the query is considered as a slow query if its execution duration is greater than or equal to 1 second.

Parameter	Mandatory	Type	Description
max_allowed_packet	No	String	Maximum size of one packet or any generated intermediate string. The packet message buffer is initialized to <b>net_buffer_length</b> bytes, but can grow up to <b>max_allowed_packet</b> bytes if required. This value is small by default, to catch large (and possibly incorrect) packets. The value must be a multiple of <b>1024</b> . The value ranges from <b>1024</b> to <b>1073741824</b> . The default value is <b>16777216</b> .
max_backend_connections	No	String	Maximum of concurrent RDS client connections allowed per DDM instance. When this parameter is set to <b>0</b> (default), the maximum concurrent connections from a DDM node to an RDS DB instance is: (RDS DB instance's maximum connections - 20)/Number of DDM nodes. The value ranges from <b>0</b> to <b>10000000</b> .
max_connections	No	String	Concurrent connections allowed per DDM instance. The value is related to the class and number of associated RDS instances. The default value is <b>20000</b> . The value ranges from <b>10</b> to <b>40000</b> , indicating that the maximum of concurrent connections cannot exceed 40,000.
min_backend_connections	No	String	Minimum concurrent connections from a DDM node to an RDS instance. The default value is <b>10</b> . The value ranges from <b>0</b> to <b>10000000</b> .
not_from_pushdown	No	String	Whether the SELECT statements that do not contain any FROM clauses are pushed down.

Parameter	Mandatory	Type	Description
seconds_behind_master	No	String	Threshold in seconds of the replication lag between a primary RDS instance and its read replica. The value ranges from <b>0</b> to <b>7200</b> . The default value is <b>30</b> , indicating that the time for data replication between the primary RDS instance and its read replicas cannot exceed 30 seconds. If the time exceeds 30 seconds, the data read requests are no longer forwarded to the read replicas.
sql_audit	No	String	Whether SQL audit is enabled.
sql_execute_timeout	No	String	Number of seconds to wait for a SQL statement to execute before it times out. The value ranges from <b>100</b> to <b>28800</b> . The default value is <b>28800</b> , indicating that the SQL statement times out if its execution time is greater than or equal to 28,800 seconds.
support_ddl_binlog_hint	No	String	Whether a binlog hint is added to each DDL statement.
transaction_policy	No	String	Transactions supported by DDM. XA transaction, which attempts to ensure atomicity and isolation. FREE transaction, which is a best-effort commit transaction that allows data to be written to multiple shards, without impacting performance. FREE transactions do not ensure atomicity. NO_DTX transaction, which is a single-shard transaction.
ultimate_optimize	No	String	Whether the SQL execution plan is optimized based on parameter values.

## Example Request

Changing the value of **long\_query\_time** to 2. The value indicates that the query is considered as a slow query if its execution duration is greater than or equal to 2 seconds.

```
PUT https://{endpoint}/v3/{project_id}/instances/{instance_id}/configurations
{
  "values" : {
    "long_query_time" : "2"
  }
}
```

## Response

- Normal response

**Table 4-531** Response body parameters

Parameter	Type	Description
nodeList	String	DDM instance nodes
needRestart	Boolean	Whether the instance needs to be restarted
jobId	String	Task ID
configId	String	Parameter template ID
configName	String	Parameter template name

- Normal response example

```
{
  "nodeList" : null,
  "needRestart" : "false",
  "jobId" : "9fe84a77-xxxx-xxxx-xxxx-db910a548657",
  "configId" : null,
  "configName" : null
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.10.4 Modifying Parameters of an Instance

### Function

This API is used to modify parameters of a DDM instance.

### Constraints

The values of the modified parameters must be within the value range defined on the DDM console. For details about the range of parameter values, see [Modifying Parameters of a DDM Instance](#) in *Distributed Database Middleware User Guide*.

### URI

PUT /v3.1/{project\_id}/instances/{instance\_id}/configurations

**Table 4-532** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	DDM instance ID

### Request Parameters

**Table 4-533** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token You can obtain the token by calling the IAM API used to obtain a user token.

**Table 4-534** Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	<p><b>Definition</b> Parameter template description</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value can contain a maximum of 256 characters and cannot contain carriage return characters or the following special characters ! &lt; " = ' &gt; &amp;</p> <p><b>Default Value</b> N/A</p>
values	Yes	Map<String,String>	<p>Parameter values defined by users based on a default parameter template.</p> <ul style="list-style-type: none"> <li>• <b>key</b>: parameter name. If a parameter name is left empty, its value is not to be changed.</li> <li>• <b>value</b>: indicates the parameter value.</li> </ul>
name	No	String	<p><b>Definition</b> Parameter template name</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The name can contain 1 to 64 characters. Only letters (case-sensitive), digits, hyphens (-), underscores (_), and periods (.) are allowed.</p> <p><b>Default Value</b> N/A</p>

## Example Request

Changing the value of **long\_query\_time** to **2**. The value indicates that the query is considered as a slow query if its execution duration is greater than or equal to 2 seconds.

```
PUT https://{endpoint}/v3.1/{project_id}/instances/{instance_id}/configurations
{
  "values": {
    "long_query_time": "2"
  }
}
```

## Response

- Normal response

**Table 4-535** Response body parameters

Parameter	Type	Description
need_restart	Boolean	Whether the instance needs to be restarted

- Normal response example

```
{
  "need_restart": false
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.10.5 Creating a Parameter Template (a V3 API)

### Function

This API is used to create a parameter template.

### URI

POST /v3/{project\_id}/configurations

**Table 4-536** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region

## Request Parameters

**Table 4-537** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

**Table 4-538** Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Parameter template name The parameter template name can contain 1 to 64 characters. It can contain only letters, digits, hyphens (-), underscores (_), and periods (.).
description	Yes	String	Parameter template description The value can contain a maximum of 256 characters and cannot contain carriage return characters or the following special characters ! < " = ' > & If the description contains more than 256 characters, the parameter group can still be created. The first 256 characters will be automatically used.

Parameter	Mandatory	Type	Description
values	No	Map<String,String>	<p><b>Definition</b> Parameter values defined by users based on a default parameter template.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b></p> <ul style="list-style-type: none"> <li>• <b>key</b>: parameter name, for example, <b>contains_shard_key</b> or <b>connection_idle_timeout</b>. If this parameter is not specified, no parameter value is to be changed.</li> <li>• <b>value</b>: parameter value, for example, <b>6</b> or <b>20</b>. If <b>key</b> is not empty, the parameter <b>value</b> cannot be empty, either.</li> </ul> <p><b>Default Value</b> N/A</p>

## Example Request

Creating a parameter template

```
POST https://{endpoint}/v3/{project_id}/configurations
{
  "name" : "param1688972688",
  "description" : "test"
}
```

## Response Parameters

- Normal response

**Table 4-539** Response body parameters

Parameter	Type	Description
id	String	Parameter template ID
name	String	Name

## Example Response

- Normal response example

```
{
  "id": "404f3bbb8a724f7697e7fb15a1b09370pr09",
  "name": "param1688972688"
}
```

- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.10.6 Deleting a Parameter Template (a V3 API)

### Function

This API is used to delete a parameter template.

### URI

DELETE /v3/{project\_id}/configurations/{config\_id}

**Table 4-540** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region
config_id	Yes	String	Parameter template ID

## Request Parameters

**Table 4-541** Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. The token can be obtained by calling the IAM API used to obtain a user token. The value of <b>X-Subject-Token</b> in the response header is the user token.

## Response Parameters

- Normal response  
None

## Example Request

```
DELETE https://{endpoint}/v3/{project_id}/configurations/{config_id}
```

## Example Response

- Normal response example  
{ }
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.10.7 Querying Parameter Template Application Records (a V3 API)

### Function

This API is used to query parameter template application records.

### Constraints

None

### API Calling

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

### Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).

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

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm::listParameterGroup	Read	parameterGroup*	-	ddm:parameter:list	-

## URI

GET /v3/{project\_id}/configurations/{config\_id}/apply-histories

Table 4-542 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value can contain 32 characters. Only letters and digits are supported.</p> <p><b>Default Value</b> N/A</p>
config_id	Yes	String	<p><b>Definition</b> Parameter template ID</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value can contain 36 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

**Table 4-543** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	<b>Definition</b> Index offset. <b>Constraints</b> N/A <b>Range</b> The value is greater than or equal to <b>0</b> . <b>Default Value</b> <b>0</b>
limit	No	Integer	<b>Definition</b> Number of records to be queried. <b>Constraints</b> N/A <b>Range</b> The value is greater than <b>0</b> and less than or equal to <b>128</b> . <b>Default Value</b> <b>10</b>

## Request Parameters

None

## Example Request

Querying parameter template application records

```
GET https://{endpoint}/v3/configurations/{config_id}/apply-histories
```

## Response Parameters

- Normal response

**Table 4-544** Response body parameters

Parameter	Type	Description
histories	Array of <a href="#">ApplyHistory</a> objects	<p><b>Definition</b> Information about parameter template application records.</p> <p><b>Range</b> N/A</p>
total	Integer	<p><b>Definition</b> Total number of parameter application records.</p> <p><b>Range</b> N/A</p>

**Table 4-545** ApplyHistory

Parameter	Type	Description
target_id	String	<p><b>Definition</b> Parameter template ID</p> <p><b>Range</b> N/A</p>
target_name	String	<p><b>Definition</b> Parameter template name</p> <p><b>Range</b> N/A</p>
apply_result	String	<p><b>Definition</b> Result of applying the parameter template to the instance</p> <p><b>Range</b></p> <ul style="list-style-type: none"> <li>• <b>SUCCESS:</b> The parameter template is successfully applied to the instance.</li> <li>• <b>FAILED:</b> The parameter template fails to be applied to the instance.</li> <li>• <b>APPLYING:</b> The parameter template is being applied to the instance.</li> </ul>

Parameter	Type	Description
applied_at	String	<p><b>Definition</b></p> <p>Date when the template is applied. The format is yyyy-mm-ddThh:mm:ssZ. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b>.</p> <p><b>Range</b></p> <p>N/A</p>
error_message	String	<p><b>Definition</b></p> <p>Error message of applying the parameter template to the instance. If the parameter template is successfully applied to the instance, no error information is returned.</p> <p><b>Range</b></p> <p>N/A</p>

## Example Response

- Normal response example

```
{
  "histories" : [ {
    "target_id" : "59974b82e7xxxxxxxx9802d28bbe18in09",
    "target_name" : "ddm-test1",
    "apply_result" : "SUCCESS",
    "applied_at" : "2026-01-06T07:07:51+0000",
    "error_code" : ""
  }, {
    "target_id" : "59974b82e7xxxxxxxx9802d28bbe18in09",
    "target_name" : "ddm-test2",
    "apply_result" : "SUCCESS",
    "applied_at" : "2026-01-06T06:22:48+0000",
    "error_code" : ""
  } ],
  "total" : 9
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Codes

- Normal

200

- Abnormal

For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.10.8 Replicating a Parameter Template (a V3 API)

### Function

This API is used to replicate a parameter template.

### Constraints

None

### API Calling

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

### Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm::copyParameterGroup	Write	parameterGroup*	-	ddm:parameter:create	-

### URI

POST /v3/{project\_id}/configurations/{config\_id}/copy

**Table 4-546** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value can contain 32 characters. Only letters and digits are supported.</p> <p><b>Default Value</b> N/A</p>
config_id	Yes	String	<p><b>Definition</b> Parameter template ID</p> <p><b>Constraints</b> A default parameter template cannot be replicated.</p> <p><b>Range</b> The value can contain 36 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

## Request Parameters

**Table 4-547** Request body parameters

Parameter	Mandatory	Type	Description
new_name	Yes	String	<p><b>Definition</b> Name of the new parameter template</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The parameter template name can contain 1 to 64 characters. It can contain only letters, digits, hyphens (-), underscores (_), and periods (.).</p> <p><b>Default Value</b> N/A</p>
description	No	String	<p><b>Definition</b> Description of the new parameter template.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value can contain a maximum of 256 characters and cannot contain carriage return characters or the following special characters ! &lt; " = ' &gt; &amp;</p> <p><b>Default Value</b> N/A</p>

### Example Request

Replicating a parameter template

```
POST https://{endpoint}/v3/a8e2a5e2a6xxxxxxxxx5af5b9ddabe5/configurations/31b1304fc0xxxxxxxxxf846c92318edpr09/copy
{
  "new_name" : "paramTemplate-test",
  "description" : ""
}
```

## Response Parameters

None

Example Response

- Normal response example  
{ }
- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
200
- Abnormal

For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.10.9 Updating a Parameter Template (a V3 API)

### Function

This API is used to update a parameter template.

### Constraints

None

### API Calling

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

### Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm::updateParamGroup	Write	parameterGroup*	-	ddm:parameter:update	-

## URI

PUT /v3/{project\_id}/configurations/{config\_id}

**Table 4-548** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value can contain 32 characters. Only letters and digits are supported.</p> <p><b>Default Value</b> N/A</p>
config_id	Yes	String	<p><b>Definition</b> Parameter template ID</p> <p><b>Constraints</b> The default parameter template cannot be updated.</p> <p><b>Range</b> The value can contain 36 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

## Request Parameters

**Table 4-549** Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	<p><b>Definition</b> Parameter template description</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value can contain a maximum of 256 characters and cannot contain carriage return characters or the following special characters ! &lt; " = ' &gt; &amp;</p> <p><b>Default Value</b> N/A</p>
values	Yes	Map<String,String>	<p><b>Definition</b> Parameter values defined by users based on a default parameter template.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b></p> <ul style="list-style-type: none"> <li>• <b>key</b>: parameter name, for example, <b>contains_shard_key</b> or <b>connection_idle_timeout</b>. If this parameter is not specified, no parameter value is to be changed.</li> <li>• <b>value</b>: parameter value, for example, <b>6</b> or <b>20</b>. If <b>key</b> is not empty, the parameter <b>value</b> cannot be empty, either.</li> </ul> <p><b>Default Value</b> N/A</p>

Parameter	Mandatory	Type	Description
name	No	String	<p><b>Definition</b> Parameter template name</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The template name can contain 1 to 64 characters. Only letters (case-sensitive), digits, hyphens (-), underscores (_), and periods (.) are allowed.</p> <p><b>Default Value</b> N/A</p>

### Example Request

Updating a parameter template

```
PUT https://{endpoint}/v3/a8e2a5e2a6xxxxxxxxx5af5b9ddabe5/configurations/849c450a43xxxxxxxxxf33cff5f0717pr09
```

```
{
  "values" : {
    "ddl_flowcontrol_threshold" : "10005"
  }
}
```

### Response Parameters

- Normal response

**Table 4-550** Response body parameters

Parameter	Type	Description
need_restart	Boolean	<p><b>Definition</b> Whether a DDM instance needs to be restarted.</p> <p><b>Range</b></p> <ul style="list-style-type: none"> <li>• <b>false:</b> The DDM instance does not need to be restarted.</li> <li>• <b>true:</b> The DDM instance needs to be restarted.</li> </ul>

## Example Response

- Normal response example

```
{
  "need_restart" : false
}
```
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

## 4.10.10 Querying Instances that a Parameter Template Can Be Applied To (a V3 API)

### Function

This API is used to query instances that a parameter template can be applied to.

### Constraints

None

### API Calling

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

### Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm:instance:list	Read	parameterGroup*	<ul style="list-style-type: none"> <li>g:EnterpriseProjectId</li> <li>g:ResourceTag/&lt;tag-key&gt;</li> </ul>	ddm:instance:list	-

## URI

GET /v3/{project\_id}/configurations/{config\_id}/query-instances

**Table 4-551** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value can contain 32 characters. Only letters and digits are supported.</p> <p><b>Default Value</b> N/A</p>
config_id	Yes	String	<p><b>Definition</b> Parameter template ID</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value can contain 36 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

**Table 4-552** Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	<p><b>Definition</b> Which page the server starts returning items</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value is greater than or equal to <b>0</b>.</p> <p><b>Default Value</b> <b>0</b></p>
limit	No	Integer	<p><b>Definition</b> Number of records on each page</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value is greater than <b>0</b> and less than or equal to <b>128</b>.</p> <p><b>Default Value</b> <b>10</b></p>

## Request Parameters

None

## Example Request

Querying instances that a parameter template can be applied to

```
GET https://{endpoint}/v3/a8e2a5e2a6xxxxxxxx5af5b9ddabe5/configurations/849c450a43xxxxxxxxf33cff5f0717pr09/query-instances
```

## Response Parameters

- Normal response

**Table 4-553** Response body parameters

Parameter	Type	Description
entities	Array of <a href="#">ApplicableInstance</a> objects	<p><b>Definition</b> Returned information about the list of instances that the parameter template can be applied to.</p> <p><b>Range</b> N/A</p>
total	Integer	<p><b>Definition</b> Total number of instances that a parameter template can be applied to.</p> <p><b>Range</b> N/A</p>

**Table 4-554** ApplicableInstance

Parameter	Type	Description
instance_id	String	<p><b>Definition</b> Instance ID, which uniquely identifies an instance</p> <p><b>Range</b> The value contains 36 characters with a suffix of <b>in09</b>. Only letters and digits are allowed.</p>
instance_name	String	<p><b>Definition</b> Instance name</p> <p><b>Range</b> N/A</p>

## Example Response

- Normal response example
 

```
{
  "entities": [ {
    "instance_id": "34694c59f8xxxxxxxxxx35bd53e06d8bin09",
    "instance_name": "ddm-test"
  } ],
  "total": 9
}
```
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

### 4.10.11 Comparing Two Parameter Templates (a V3 API)

#### Function

This API is used to compare two parameter templates.

#### Constraints

None

#### API Calling

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

#### Authorization Information

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

- If you are using role/policy-based authorization, see the required permissions in [Permissions Policies and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
ddm::listParameterGroup	Read	parameterGroup*	-	ddm:parameter:list	-

#### URI

PUT /v3/{project\_id}/configurations/diff

**Table 4-555** URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<p><b>Definition</b> Project ID of a tenant in a region To obtain this value, see <a href="#">Obtaining a Project ID</a>.</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value can contain 32 characters. Only letters and digits are supported.</p> <p><b>Default Value</b> N/A</p>

## Request Parameters

**Table 4-556** Request body parameters

Parameter	Mandatory	Type	Description
source_id	Yes	String	<p><b>Definition</b> Source parameter template ID</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value can contain 36 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

Parameter	Mandatory	Type	Description
target_id	Yes	String	<p><b>Definition</b> Target parameter template ID</p> <p><b>Constraints</b> N/A</p> <p><b>Range</b> The value can contain 36 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b> N/A</p>

## Example Request

Comparing two parameter templates

```
PUT https://{endpoint}/v3/a8e2a5e2a6xxxxxxxxx5af5b9ddabe5/configurations/diff
{
  "source_id" : "849c450a43xxxxxxxxxf33cff5f0717pr09",
  "target_id" : "8368f6642dxxxxxxxxx9d683c00b7f0pr09"
}
```

## Response Parameters

- Normal response

**Table 4-557** Response body parameters

Parameter	Type	Description
source_id	String	<p><b>Definition</b> Source parameter template ID</p> <p><b>Range</b> The value can contain 36 characters. Only letters and digits are allowed.</p>
source_name	String	<p><b>Definition</b> Source parameter template name</p> <p><b>Range</b> N/A</p>
target_id	String	<p><b>Definition</b> Target parameter template ID</p> <p><b>Range</b> The value can contain 36 characters. Only letters and digits are allowed.</p>

Parameter	Type	Description
target_name	String	<b>Definition</b> Target parameter template name <b>Range</b> N/A
parameters	Array of <a href="#">ParamGroupParameterDiffV3</a> objects	<b>Definition</b> Returned information about parameter template comparison <b>Range</b> N/A

**Table 4-558** ParamGroupParameterDiffV3

Parameter	Type	Description
name	String	<b>Definition</b> Parameter name <b>Range</b> N/A
source_value	String	<b>Definition</b> Source parameter value <b>Range</b> N/A
target_value	String	<b>Definition</b> Target parameter value <b>Range</b> N/A

## Example Response

- Normal response example

```
{
  "parameters": [ {
    "name": "ddl_flowcontrol_threshold",
    "source_value": "1005",
    "target_value": "10000"
  } ],
  "source_id": "849c450a43xxxxxxxxxxf33cff5f0717pr09",
  "source_name": "paramTemplate-test",
  "target_id": "8368f6642dxxxxxxxxxx9d683c00b7f0pr09",
  "target_name": "paramTemplate-2b7f"
}
```

- Abnormal response

For details, see [Abnormal Request Results](#).

## Status Codes

- Normal  
200
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

For details, see [Error Codes](#).

# 4.11 Application Examples

## 4.11.1 Querying DDM Instances

### Scenarios

This section describes how to query all DDM instances of a tenant by configuring the pagination parameter in the required API for [Querying DDM Instances](#).

### Procedure

**Step 1** Configure parameters **limit** and **offset** to query DDM instances.

- API Information  
URI format: GET /v1/{project\_id}/instances  
For details, see [Querying DDM Instances](#).
  - Example request  
GET: `https://{endpoint}/v1/743b4c0428d945316666666666666666/instances?offset=0&limit=1`  
Obtain the endpoint from [Regions and Endpoints](#).  
The **limit** value can be adjusted based on DDM instance data.

– Example response

```
{
  "instance_num":10,
  "instances":
  [
    {
      "id":"cab932b426ed4215a8d76b9d71322661in09",
      "status":"RUNNING",
      "name":"ddm-20-single-2u4g-1-202010231552401522260",
      "created":"2020-10-23T07:52:46+0000",
      "updated":"2020-10-23T07:59:56+0000",
      "available_zone":"az1xahz",
      "vpc_id":"9cf0f8f5-9748-4ebb-9905-bbe429182bd6",
      "subnet_id":"b35a4be7-65a5-4176-bec9-7a437493c498",
      "security_group_id":"9d10da6d-38cc-4cf0-8f96-c34940a3fd15",
      "node_count":1,
      "access_ip":"192.168.60.13",
      "access_port":"5066",
      "core_count":"2",
```



## Procedure

**Step 1** Delete a DDM instance and delete the data stored in the associated RDS instances.

- API Information

URI format: DELETE /v1/{project\_id}/instances/{instance\_id}?  
delete\_rds\_data=true

For details, see [Deleting a DDM Instance](#).

- Example request

DELETE: https://{endpoint}/v1/743b4c0428d945316666666666666666/  
instances/d0b008c1ee95479d8799710d9f3a4097in09?delete\_rds\_data=true

Obtain the endpoint from [Regions and Endpoints](#).

- Example response

```
{  
  "id": "d0b008c1ee95479d8799710d9f3a4097in09"  
}
```

----End

**Step 1** Delete a DDM instance, but do not delete the data stored in the associated RDS instances.

- API Information

URI format: DELETE /v1/{project\_id}/instances/{instance\_id}?  
delete\_rds\_data=false

For details, see [Deleting a DDM Instance](#).

- Example request

Obtain the endpoint from [Regions and Endpoints](#).

- Example response

```
{  
  "id": "d0b008c1ee95479d8799710d9f3a4097in09"  
}
```

----End

# 5 Permissions Policies and Supported Actions

---

## 5.1 Introduction

This section describes fine-grained permissions management for your DDM instance. If your account does not need individual IAM users, skip over this section.

By default, new IAM users do not have any permissions granted. You need to add a user to one or more groups, and assign policies or roles to these groups. The user then inherits permissions from the groups it is a member of. This process is called authorization. After authorization, the user can perform specified operations on the DDM service based on the permissions.

### NOTE

If you want to allow or deny the access to an API, fine-grained authorization is a good choice.

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 queries ECSs using an API, the user must have been granted permissions that allow the **ecs:servers:list** action.

## Supported Actions

DDM 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:

- **Permission:** A statement in a policy that allows or denies certain operations.
- **APIs:** REST APIs that can be called in a custom policy
- **Actions:** Added to a custom policy to control permissions for specific operations

- Related actions: Actions which a specific action depends on to take effect. When assigning permissions for the action to a user, you also need to assign permissions for the dependent actions.
- IAM projects or enterprise projects: Type of projects in which policies can be used to grant permissions. A policy can be applied to IAM projects, enterprise projects, or both. Policies that contain actions for both IAM and enterprise projects can be used and take effect for both IAM and Enterprise Project Management Service (EPS). 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.

## 5.2 Instance Management

Table 5-1 DDM instance management

Permission	API	Action	IAM Project	Enterprise Project
Buying a pay-per-use instance Buying a yearly/monthly DDM instance	POST /v1/{project_id}/instances	ddm:instance:create Before buying a DDM instance, obtain the following dependent permissions: <ul style="list-style-type: none"> <li>• ecs:*.get*</li> <li>• ecs:*.list*</li> <li>• vpc:vpcs:list</li> <li>• vpc:securityGroups:get</li> <li>• vpc:subnets:get</li> <li>• ecs:cloudServerNics:update</li> <li>• ecs:serverInterfaces:use</li> <li>• Global or region-level <b>vpc:ports:*</b></li> <li>• <b>BSS Finance</b> and <b>BSS Operator</b> policies The last permission is required only when you buy a yearly/monthly DDM instance.</li> </ul>	√	√

Permission	API	Action	IAM Project	Enterprise Project
Querying DDM instances	GET /v1/{project_id}/instances?offset={offset}&limit={limit}	ddm:instance:list	√	√
Querying details of a DDM instance	GET /v1/{project_id}/instances/{instance_id}	ddm:instance:get <ul style="list-style-type: none"> <li>vpc*:get*</li> <li>vpc*:list*</li> </ul>	√	√
Modifying a DDM instance	PUT /v1/{project_id}/instances/{instance_id}	ddm:instance:modify To modify a security group, the following permissions must be configured: <ul style="list-style-type: none"> <li>vpc*:get*</li> <li>vpc*:list*</li> <li>vpc:ports:update</li> <li>vpc:securityGroups:get</li> </ul>	√	√
Restarting a DDM instance	POST /v1/{project_id}/instances/{instance_id}/action	ddm:instance:reboot	√	√
Deleting a DDM instance	DELETE /v1/{project_id}/instances/{instance_id}?delete_rds_data=true	ddm:instance:delete vpc:ports:delete	√	√
Setting an instance to read-only	PUT /v3/{project_id}/instances/{instance_id}/readonly-status	ddm:instance:setRead Only	√	√

Permission	API	Action	IAM Project	Enterprise Project
Checking RDS connectivity (V3)	POST /v3/ {project_id}/ instances/ {instance_id}/ rds/ connection	ddm:instance:checkDataNodeConnection	√	√
Querying parameter template application records (V3)	GET /v3/ {project_id}/ configurations/ {config_id}/ apply- histories	ddm::listParamGroup	√	√
Replicating a parameter template (V3)	POST /v3/ {project_id}/ configurations/ {config_id}/ copy	ddm::copyParamGroup	√	√
Updating a parameter template (V3)	PUT /v3/ {project_id}/ configurations/ {config_id}	ddm::updateParamGroup	√	√
Querying instances that a parameter template can be applied to (V3)	GET /v3/ {project_id}/ configurations/ {config_id}/ query- instances	ddm:instance:list	√	√
Comparing two parameter groups (V3)	PUT /v3/ {project_id}/ configurations/ /diff	ddm::listParamGroup	√	√

 **NOTE**

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

## 5.3 Schema Management

**Table 5-2** Schema management actions

Permission	API	Action	IAM Project	Enterprise Project
Creating a Schema	POST /v1/{project_id}/instances/{instance_id}/databases	ddm:database:create	√	√
Querying Schemas	GET /v1/{project_id}/instances/{instance_id}/databases?offset={offset}&limit={limit}	ddm:database:list	√	√
Querying Details of a Schema	GET /v1/{project_id}/instances/{instance_id}/databases/{ddm_dbname}	ddm:database:get	√	√
Deleting a Schema	DELETE /v1/{project_id}/instances/{instance_id}/databases/{ddm_dbname}?delete_rds_data=true	ddm:database:delete	√	√

## 5.4 Account Management

**Table 5-3** Account management permissions

Permission	API	Action	IAM Project	Enterprise Project
Creating a DDM Account	POST /v1/{project_id}/instances/{instance_id}/users	ddm:user:create	√	√
Querying DDM Accounts	GET /v1/{project_id}/instances/{instance_id}/users?offset={offset}&limit={limit}	ddm:user:list	√	√
Modifying a DDM Account	PUT /v1/{project_id}/instances/{instance_id}/users/{username}	ddm:user:modify	√	√
Deleting a DDM Account	DELETE /v1/{project_id}/instances/{instance_id}/users/{username}	ddm:user:delete	√	√

## 5.5 Reloading Table Data

**Table 5-4** Permissions for managing logical tables

Permissi on	API	Action	IAM Proje ct	Enterpris e Project
Reloadin g Table Data	POST /v1/{project_id}/instances/ {instance_id}/reload-config	ddm:insta nce:modify	√	√

# A Appendix

## A.1 Abnormal Request Results

### v3 APIs

#### Abnormal response description

Table A-1 Abnormal response description

Parameter	Type	Description
error_code	String	Error code returned when a task submission exception occurs
error_msg	String	Error description returned when a task submission exception occurs

#### Response example:

```
{  
  "error_code": "DBS.300301",  
  "error_msg": "Failed to update the account"  
}
```

### v1 and v2 APIs

#### Abnormal response description

Table A-2 Parameter description

Parameter	Type	Description
errCode	String	Error code returned when a task submission exception occurs

Parameter	Type	Description
externalMessage	String	Description of the error returned when a task submission exception occurs.

**Response example:**

```
{
  "errCode": "DBS.300101",
  "externalMessage": "Failed to delete the schema"
}
```

## A.2 Status Codes

### Normal

**Table A-3** lists the status codes that may be returned.

**Table A-3** Normal status codes

Status Code	Message	Description
200	OK	The request has been processed successfully.
202	OK	The asynchronous request is submitted successfully.

### Abnormal

**Table A-4** lists the status codes that may be returned.

**Table A-4** Abnormal status codes

Status Code	Message	Description
400	Bad Request	The server fails to process the request. The possible causes are as follows: <ul style="list-style-type: none"> <li>• The request could not be parsed by the server due to incorrect syntax.</li> <li>• Request parameters are incorrect.</li> </ul>
401	Unauthorized	Necessary credentials (for example, username and password) required for user authentication are not provided.
403	Forbidden	Access to the requested page is denied.

Status Code	Message	Description
404	Not Found	The request failed because the requested resource could not be found on the server.
405	Method Not Allowed	You are not allowed to use the method specified in the request.
409	Conflict	The request could not be processed due to a conflict with the current resource status.
413	Request Entity Too Large	The requested resource exceeds the resource quota.
415	Unsupported Media Type	<b>ContentType</b> contained in the request header is neither <b>application</b> nor <b>json</b> .
500	Internal Server Error	The request is not completed due to a service error.
501	Not Implemented	The request is not completed because the server does not support the requested function.
503	Service Unavailable	The request could not be processed by the server because the server is being maintained or overloaded.

### A.3 Error Codes

If an error code starting with **APIGW** is returned after you call an API, rectify the fault by referring to the instructions provided in [Error Codes](#).

Status Code	Error Code	Error Message	Solution
400	DBS.280001	Parameter error.	Refresh the page, modify some parameters, and try again.
400	DBS.200076	The instance and node must be in the Available state.	Check whether other operations are being performed or fail on the instance or node. After the fault is rectified, deliver the request again.
400	DBS.300002	Server failure.	Refresh the page and try again later.
400	DBS.300005	Failed to process the request. Contact technical support.	-

Status Code	Error Code	Error Message	Solution
400	DBS.300 100	Failed to create the schema.	Check whether the DDM instance is available, whether the instance is in the <b>Running</b> state, whether the RDS instance is being scaled, and whether the schema name is duplicated. If the schema name is duplicated, modify the name and send the request again.
400	DBS.300 101	Failed to delete the schema.	Check whether the schema has been deleted and whether the associated RDS instance exists or becomes abnormal.
400	DBS.300 102	The number of RDS instances associated with the schema is invalid.	Check whether the number of RDS instances associated with the schema is valid and try again.
400	DBS.300 103	The RDS instance does not exist or it is not in the same VPC as the schema.	Check whether the RDS DB instance exists and whether the DB instance is in the same VPC as the required DDM instance, and then try again.
400	DBS.300 104	The sharding rule of the schema is invalid.	Ensure that the sharding rule is valid and try again.
400	DBS.300 106	The number of shards per RDS instance is invalid.	Check whether the number of shards per RDS instance in the request is correct. If not, modify the number and try again.
400	DBS.300 107	The accounts are duplicated.	Check whether the accounts configured in parameters are duplicated and try again.
400	DBS.300 108	The RDS instances are duplicated.	Check whether there are duplicate RDS instances in the request. If yes, modify them and try again.
400	DBS.300 109	The schema name is invalid.	Check whether the schema name is valid. If no, modify it and try again.
400	DBS.300 110	The status of the RDS instance does not allow associating with the schema.	Resolve the RDS instance status exception and try again.

Status Code	Error Code	Error Message	Solution
400	DBS.300 112	This schema name already exists.	Check whether a schema with the same name exists. If yes, modify the name and try again.
400	DBS.300 113	Failed to create a physical database.	Check whether the RDS administrator and password are correct. If no, modify them and try again.
400	DBS.300 114	The administrator or password is incorrect.	Check whether the RDS administrator and password are correct. If no, modify them and try again.
400	DBS.300 115	Failed to delete the shard.	To delete the schema, check whether there are RDS instances associated with it. If the associated RDS DB instances have been deleted, click <b>Synchronize DB Instance Data</b> on the <b>Basic Information</b> page and delete the schema again.
400	DBS.300 116	Failed to query available RDS instances.	Check whether the RDS service is running properly and try again.
400	DBS.300 117	Failed to obtain the associated RDS instances.	Check whether the RDS service is running properly and try again.
400	DBS.300 118	Failed to configure shards of a schema.	Check input parameters in the request.
400	DBS.300 120	Failed to obtain task information.	Ensure that the DDM instance is running properly and try again.
400	DBS.300 121	Failed to delete the shard configuration task.	Ensure that the shard configuration task exists and is in the valid state and that the administrator password of the destination RDS instance is correct, and try again.
400	DBS.300 122	Failed to roll back the shard configuration task.	Ensure that the shard configuration task exists and is in the valid state and that the administrator password of the destination RDS instance is correct, and try again.
400	DBS.300 123	Failed to retry the shard configuration task.	Ensure that the shard configuration task exists and is in the valid state, and try again.

Status Code	Error Code	Error Message	Solution
400	DBS.300 125	Failed to synchronize RDS information.	Check whether the RDS service is running properly and try again.
400	DBS.300 127	The number of shards in the RDS instances associated with the schema is invalid.	Ensure that the total number of shards in the associated RDS DB instances is valid and try again.
400	DBS.300 128	Failed to query schema information.	Ensure that the DDM instance is running properly and try again.
400	DBS.300 129	Failed to query schema information.	Check whether the schema exists and try again.
400	DBS.300 130	Invalid schema status.	Check whether the schema is in the running state and try again.
400	DBS.300 131	Failed to update the schema SQL blacklist.	Ensure that the DDM instance is running properly and try again.
400	DBS.300 132	Failed to query the schema SQL blacklist.	Ensure that the DDM instance is running properly and try again.
400	DBS.300 133	The RDS instance is being used to scale out a schema.	Ensure that the RDS DB instance status is not <b>Scaling out</b> or <b>Scaling failed</b> and try again.
400	DBS.300 134	The schema status does not allow rolling back or canceling the scale-out task.	Refresh the page and try again later.
400	DBS.300 135	Failed to update the relative read weight of the RDS instance.	Ensure that the DDM instance is running properly and try again.
400	DBS.300 300	Failed to create a DDM account	Ensure that the DDM instance, schema, and account exist and try again.
400	DBS.300 301	Failed to update the account.	Ensure that the account and associated schema exist and that the password meets the requirements, and try again.

Status Code	Error Code	Error Message	Solution
400	DBS.300302	Failed to delete the account.	Ensure that the DDM instance is running properly and try again.
400	DBS.300305	Invalid DDM account name.	Ensure that the account name is valid and try again.
400	DBS.300306	The account password is invalid.	Ensure that the account name and password in the request body are correct and try again.
400	DBS.300307	The account description is invalid.	Ensure that the maximum length of account description does not exceed 256 characters and try again.
400	DBS.300309	The account basic permissions are invalid.	Ensure that basic permissions configured for the account are correct and try again.
400	DBS.300310	The account extended permissions are invalid.	Ensure that extended permissions configured for the account are correct and try again.
400	DBS.300311	The account already exists.	Ensure that the account name is unique and try again.
400	DBS.300312	Failed to query the account.	Ensure that the DDM instance is running properly and try again.
400	DBS.300313	Failed to configure the SQL blacklist.	Ensure that the schema exists and is in the <b>Running</b> state, and try again.
400	DBS.300314	Failed to modify the read/write policy.	Ensure that the DDM instance is running properly and try again.
400	DBS.300315	Invalid read/write relative weight.	Ensure that the weight is greater than or equal to 0 and less than 100.
400	DBS.300316	Failed to query the read/write policy.	Ensure that the DDM instance is running properly and try again.
400	DBS.300322	Failed to save instance metadata.	Provide environment information, instance ID, involved operations, and symptom description and contact technical support.
400	DBS.300323	The associated RDS instance is unavailable or this operation cannot be performed when the RDS instance is in the current state.	Ensure that the associated RDS DB instance exists and is in normal state, and try again.

Status Code	Error Code	Error Message	Solution
400	DBS.300 327	The account does not exist.	Ensure that the account exists and try again.
400	DBS.300 328	Failed to reset the password.	Ensure that the account exists and try again.
400	DBS.300 329	Failed to obtain the step name.	Try again or roll back the scale-out task.
400	DBS.300 330	Failed to convert the string from JSON to the required format.	Provide environment information, involved operations, instance ID, and symptom description and contact technical support.
400	DBS.300 331	Data migration error.	Provide environment information, involved operations, instance ID, and symptom description and contact technical support.
400	DBS.300 332	The request for shard configuration times out.	Try again or roll back the scale-out task.
400	DBS.300 333	Failed to check the time zone.	Log in to the RDS console. In the instance list, locate the source RDS instance and click its name. In the navigation pane, choose <b>Parameters</b> , search for <b>time_zone</b> in the upper right text box to check its value. Then, perform these operations on the target RDS instance, and check whether its <b>time_zone</b> value is consistent with the source instance. If not, modify it to ensure that the two values are consistent and retry.
400	DBS.300 334	<b>sql_mode</b> check failed.	Log in to the RDS console. In the instance list, locate the source RDS instance and click its name. In the navigation pane, choose <b>Parameters</b> , search for <b>sql_mode</b> in the upper right text box to check its value. Then, perform these operations on the target RDS instance, and check whether its <b>sql_mode</b> value is consistent with the source instance. If not, modify it to ensure that the two values are consistent and retry.
400	DBS.300 335	Failed to obtain the RDS link.	Check whether the RDS service is running properly.

Status Code	Error Code	Error Message	Solution
400	DBS.300 336	Physical database not found.	Log in to the associated RDS instance and execute <b>SHOW DATABASES</b> . Check whether there is a physical database whose name starts with the schema name, and whether the number of physical databases must be the same as the number of shards in the schema.
400	DBS.300 337	Failed to check the primary key.	Check whether there are tables without primary keys. If yes, add primary keys for those tables and retry.
400	DBS.300 338	Failed to disable DDL or DML.	Provide environment information, instance ID, involved operations, and symptom description and contact technical support.
400	DBS.300 339	Failed to insert a scale-out subtask.	Contact technical support.
400	DBS.300 340	Failed to change statuses of scale-out subtasks to <b>Initialization</b> .	Contact technical support.
400	DBS.300 341	Failed to issue a scale-out subtask.	Contact technical support.
400	DBS.300 342	Failed to obtain scale-out subtasks.	Contact technical support.
400	DBS.300 343	The volume of remaining subtask data is invalid.	Provide environment information, involved operations, and symptom description and contact technical support.
400	DBS.300 344	Status check for scale-out task failed.	Contact technical support.
400	DBS.300 345	Failed to obtain information about the scale-out task.	Try again.
400	DBS.300 346	Failed to obtain information about the DDM process.	Try again.
400	DBS.300 347	Failed to close the connection.	Try again.

Status Code	Error Code	Error Message	Solution
400	DBS.300348	Failed to obtain subtasks during data verification.	Contact technical support.
400	DBS.300349	Failed to update the schema status during route switching.	Contact technical support.
400	DBS.300350	The required data is not found.	Provide environment information, involved operations, and symptom description and contact technical support.
400	DBS.300351	Failed to change statuses of scale-out subtasks to <b>Error</b> .	Contact technical support.
400	DBS.300352	Failed to change statuses of scale-out subtasks to <b>Stop</b> .	Provide environment information, involved operations, and symptom description and contact technical support.
400	DBS.300353	Data verification failed.	Provide environment information, involved operations, and symptom description and contact technical support.
400	DBS.300354	Failed to change statuses of scale-out subtasks to <b>Complete</b> .	Provide environment information, involved operations, and symptom description and contact technical support.
400	DBS.300355	Schema creation failed.	Provide environment information, involved operations, and symptom description and contact technical support.
400	DBS.300356	Failed to connect to the RDS DB instance.	Check whether the RDS service is running properly.
400	DBS.300357	The RDS instance administrator or password is incorrect.	If the RDS instance administrator is incorrect, log in to the RDS console, locate the required RDS instance and click its name, and view the administrator on the instance details page.

Status Code	Error Code	Error Message	Solution
400	DBS.300 358	There is a schema where source data is not cleared.	Log in to the DDM console, switch to the schema management page, locate the target schema, and click <b>Clear</b> in the <b>Operation</b> column.
400	DBS.300 360	The associated instance does not support this operation.	Provide environment information, involved operations, and symptom description and contact technical support.
400	DBS.300 362	The scaling method is invalid.	Select either one of rebalance and reshard.
400	DBS.300 363	Pre-check failed.	Provide environment information, involved operations, and symptom description and contact technical support.
400	DBS.300 364	Failed to check disk space of the DB instance.	Perform the following operations to scale up disk space of the DB instance: <ol style="list-style-type: none"> <li>1. Log in to the management console.</li> <li>2. Hover on the left menu to display <b>Service List</b> and choose <b>Database &gt; Relational Database Service</b>.</li> <li>3. On the <b>Instance Management</b> page, locate the required DB instance and click its name.</li> <li>4. On the <b>Basic Information</b> page, locate the <b>Storage Space</b> part.</li> <li>5. Click <b>Scale</b> and try again after the scaling is complete.</li> </ol>
400	DBS.300 365	Failed to update metadata.	Retry the scale-out task.
400	DBS.300 366	Failed to rename physical tables during migration.	Retry the scale-out task.
400	DBS.300 367	Failed to clear source data.	Try again.

Status Code	Error Code	Error Message	Solution
400	DBS.300368	Parameter <b>lower_case_table_names</b> of the DB instance is invalid.	<p>Perform the following operations to scale up disk space of the DB instance:</p> <ol style="list-style-type: none"> <li>1. Log in to the management console.</li> <li>2. Hover on the left menu to display <b>Service List</b> and choose <b>Database &gt; Relational Database Service</b>.</li> <li>3. On the <b>Instance Management</b> page, locate the required DB instance and click its name.</li> <li>4. Choose <b>Parameters</b> in the left navigation pane, search for <b>lower_case_table_names</b> and verify that its value is <b>1</b> and retry.</li> </ol>
400	DBS.300369	Failed to configure access control. Contact technical support.	<p>View DBS-ddm-instancemanager logs and DBS-resource-manager logs and modify as follows:</p> <ul style="list-style-type: none"> <li>• If error code APIG.xxxx is returned, indicating that you have no permission to access the API, contact ELB O&amp;M engineers to grant the user the required permission. View the URI of the API in the resource management INFO log.</li> <li>• If an error code containing <b>ELB.xxxx</b> is displayed, contact ELB O&amp;M engineers to locate the fault.</li> </ul>
400	DBS.300370	Elastic load balancing is not enabled for the current DDM instance. To enable it, contact technical support.	<p>If needed, go to DBS Operation System to enable elastic load balancing for the required DDM instance.</p>
400	DBS.300371	Creating a test DDM instance is not supported. To enable this function, contact technical support.	<p>Creating DDM instances using the engine ID of a stable version is recommended. To create a test DDM instance, go to the DBS Operation System platform to add the user to the whitelist.</p> <p>View the DDM instance management logs to obtain the whitelist name.</p>

Status Code	Error Code	Error Message	Solution
400	DBS.300 372	Invalid destination DDM instance.	Create a DDM instance as the destination instance.
400	DBS.300 375	Invalid <b>{param}</b> .	Change the value of <b>{param}</b> and try again.
400	DBS.300 376	The time zone is invalid.	Enter a correct time zone.
400	DBS.300 377	Invalid time range.	<ol style="list-style-type: none"> <li>1. Ensure that the format of the time range for route switching is HH:mm:ss.</li> <li>2. Ensure that the route switching start time and end time are the same day and the interval is longer than 1 hour.</li> <li>3. Retry after completing the above operations.</li> </ol>
400	DBS.300 379	The operation is not allowed for this type of tasks.	Enter the ID of the required schema scale-out task.
400	DBS.300 400	The task is not found.	Enter a valid task ID.
400	DBS.300 401	Failed to modify the automatic route switching time range.	Provide environment information, involved operations, symptom description, and tenant node logs and contact technical support.
400	DBS.300 402	Failed to switch the route manually.	Provide environment information, involved operations, symptom description, and tenant node logs and contact technical support.
400	DBS.300 405	The schema name length is invalid.	Ensure that the schema name contains 2 to 24 characters.
400	DBS.300 406	The schema name cannot contain keyword <i>keyword</i> .	Ensure that the schema name does not contain <b>information_schema</b> , <b>mysql</b> , <b>performance_schema</b> , and <b>sys</b> .
400	DBS.300 407	The schema name cannot contain uppercase letters.	Enter a schema name that only consists of lowercase letters.

Status Code	Error Code	Error Message	Solution
400	DBS.300408	Failed to check the RDS connectivity.	<ol style="list-style-type: none"> <li>Upgrade Agent to 2.6.1 or later.</li> <li>Provide environment information, involved operations, and symptom description. Contact O&amp;M engineers to check whether the Agent is faulty.</li> </ol>
400	DBS.300541	Insufficient permissions.	Use an account with the required permissions.
400	DBS.200057	Invalid parameter template ID.	Enter a correct parameter template ID and try again later.
400	DBS.280305	Invalid security group ID.	Enter a valid security group ID and try again later.

## A.4 Instance Specifications

DDM node classes are listed in the following table and vary according to actual situations.

**Table A-5** Supported DDM node classes

Specification Code	vCPUs	Memory (GB)	Architecture
ddm.c6.2xlarge.2	8	16	x86
ddm.c6.4xlarge.2	16	32	x86
ddm.c6.8xlarge.2	32	64	x86
ddm.kc1.2xlarge.2	8	16	Arm
ddm.kc1.4xlarge.2	16	32	Arm
ddm.kc1.8xlarge.2	32	64	Arm

## A.5 Obtaining a Project ID

### Scenarios

When calling APIs, you need to specify the project ID in some URLs. To do so, you need to obtain the project ID first. Two methods are available:

- [Obtaining the Project ID by Calling an API](#)
- [Obtaining a Project ID from the Console](#)

## Obtaining the Project ID by Calling an API

You can obtain the project ID by calling the API used to query [project information based on the specified criteria](#).

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

The following is an example response. **id** indicates the project ID.

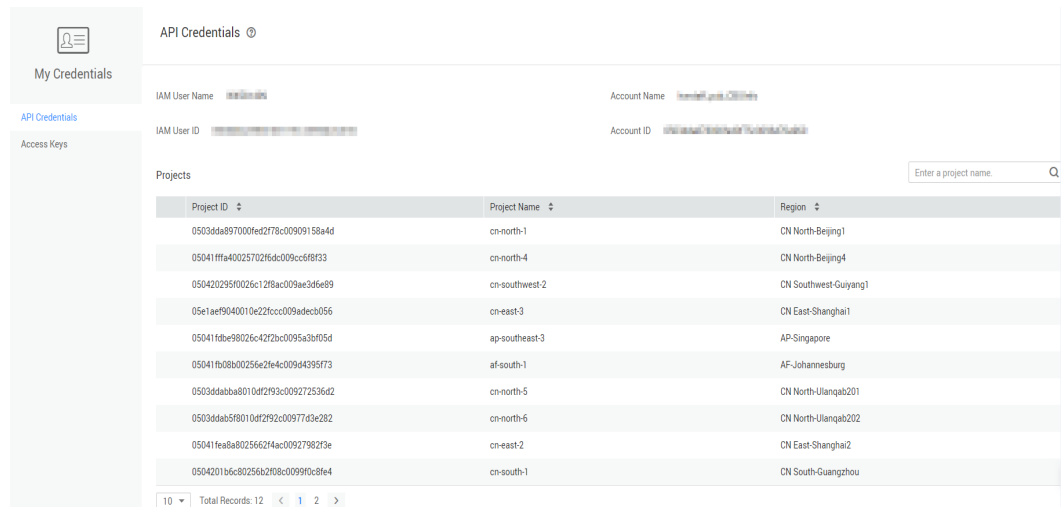
```
{
  "projects": [
    {
      "domain_id": "65382450e8f64ac0870cd180d14e684b",
      "is_domain": false,
      "parent_id": "65382450e8f64ac0870cd180d14e684b",
      "name": "project_name",
      "description": "",
      "links": {
        "next": null,
        "previous": null,
        "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897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

## Obtaining a Project ID from the Console

- Step 1** Sign up and log in to the management console.
- Step 2** Hover the mouse over the username in the upper right corner and select **My Credentials** from the drop-down list.

On the **API Credentials** page, view the project ID in the project list.

**Figure A-1** Viewing project IDs



----End

## A.6 Status Description

### DDM Instance Statuses

**Table A-6** DDM instance statuses

Status	Description
CREATING	The DDM instance is being created.
CREATEFAILED	The DDM instance fails to be created.
RUNNING	The DDM instance is running and available.
ERROR	The DDM instance is faulty.
RESTARTING	The DDM instance is being restarted.
FREEZING	The DDM instance is being frozen.
FROZEN	The DDM instance is frozen.
UNFREEZING	The DDM instance is being unfrozen.
RESIZING	Class of the DDM instance fail to be changed.
UPGRADE_VERSION_INSTANCE	The version is being upgraded.
ROLL_BACK_DB_VERSION	The version is being rolled back.
GROWING	A DDM instance is being scaled out.
REDUCING	A DDM instance is being scaled in.

Status	Description
RESTORE	A DDM instance is being restored.
BACKUP	A DDM instance is being backed up.
MODIFY_NAME	A DDM instance name is being changed.
MIGRATE_DATABASE	Shards of a schema are being configured.
RESET_PASSWORD	A password is being reset.
ONDEMAND_TO_PERIOD	The billing mode of the DDM instance is being changed to yearly/monthly.
PERIOD_RESOURCE_SPEC_CHG	The change to the yearly/monthly DDM instance is being verified.
SET_CONFIGURATION	The instance parameters are being updated.

## DDM Schema Statuses

Table A-7 DDM schema statuses

Status	Description
CREATING	The schema is being created.
RUNNING	The schema is running and available.
CREATE_FAILED	The schema fails to be created.
DELETING	The schema is being deleted.
EXPANDING	Shards are being configured.
EXPAND_FAILED	Shards fail to be configured.
ROLLING BACK	The schema is being rolled back.

## DDM Node Status

Table A-8 Node statuses

Status	Description
normal	The node is running normally.
abnormal	The node is abnormal.
creating	The DDM instance is being created.

Status	Description
createfail	The DDM instance fails to be created.
enlargefail	The DDM instance fails to be scaled out.
resizing	The node class is being changed.