

Distributed Database Middleware

API Reference

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1 Before You Start

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](#).

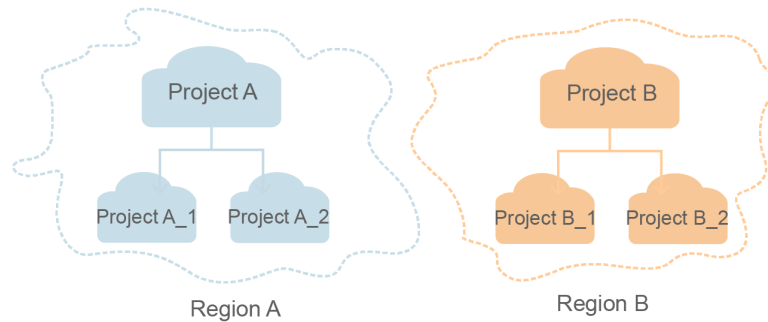
1.4 Constraints

- 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 Objective-function . For details, see Regions and Endpoints . For example, the endpoint of IAM in region CN-Hong Kong is ddm.ap-southeast-1.myhuaweicloud.com .
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the resource-path of the API used to obtain a user token is /v3/auth/tokens .

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, ? limit=10 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 https is 443 .	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 application/json . 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 Obtaining a Project ID .	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 X-Subject-Token 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...ggg1BBII NPXsidG9rZ

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 → MIIYXQYJKoZIhvcNAQcCoIIYJCCEoCAQExDTALBglghkgBZQMEAgEwgharBgkqhkiG9w0BBwGgghacBIIWmHsidG9rZW4iOnsiZXhwaXJlc19hdCI6IjwMTktMDItMTNUMC.
fj3KJs6YgKnpVNRbW2eZ5eb78SZOkjACgklQ01wi4JlGzrpd18LGXK5tdfdq4lqHCYb8P4NaY0NYejcAgzIVeFYtLWT1GSO0zxKZmlQHJQ82HBqHdglZO9fuEbl5dMhdavj+33wEI
xHRCE9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXl1jipPEGA270g1FruooL6jqglFkNPQuFSOU8+uSsttVwRtNfsC+qTp22Rkd5MCqFGQ8LcuUxC3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUbpvGw-oPNFYxJECKnoH3HRozvOvN--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 ApiVersion objects	API version information including links.

Table 4-2 ApiVersion

Parameter	Type	Description
id	String	API version, for example, v1 or v3 .
links	Array of LinkInfo objects	API link information. The value is empty when the version is v1 or v3 .
status	String	Version status. CURRENT : recommended version. SUPPORTED : earlier version which is still supported. DEPRECATED : 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. T is the separator between the calendar and the hourly notation of time. Z indicates the UTC.

Table 4-3 LinkInfo

Parameter	Type	Description
href	String	URL of the API.
rel	String	Its value is self , indicating that href 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 Obtaining a Project ID .

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	CreateInstanceDetail object	Instance information
extend_param	No	CreateInstanceExtendParam 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: • Can include 4 to 64 characters. • Must start with a letter. • Can contain only letters, digits, underscores (_), and hyphens (-).

Parameter	Mandatory	Type	Description
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
available_zones	Yes	Array of strings	AZ code. The value cannot be empty. For details, see Regions and Endpoints .
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 UTC . The value can be 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 .
admin_username	No	String	Username of the administrator. The username: • Can include 1 to 32 characters. • Must start with a letter. • Can contain only letters, digits, and underscores (_).

Parameter	Mandatory	Type	Description
admin_user_password	No	String	Password of the administrator. The password: • Can include 8 to 32 characters. • Must be a combination of uppercase letters, lowercase letters, digits, and the following special characters: ~!@#%^*-_+? 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	Billing mode. The value can be: • prePaid: indicates the yearly/monthly billing mode. • postPaid: indicates the pay-per-use billing mode. It is the default value. Default value: postPaid Enumerated values: • prePaid • postPaid
period_type	No	String	Subscription period. The value can be: • month: indicates the subscription time unit is month. • year: indicates the subscription time unit is year. This parameter is valid and mandatory if charge_mode is set to prePaid. Enumerated values: • month • year

Parameter	Mandatory	Type	Description
period_num	No	Integer	Subscription duration. - If period_type is set to month, the value ranges from 1 to 9. - If period_type is set to year, the value is 1. This parameter is valid and mandatory if charge_mode is set to prePaid.
is_auto_renew	No	String	Whether the instance is automatically renewed when it expires. The value can be: true: The instance is automatically renewed when it expires. false: The instance is not automatically renewed when it expires. This parameter is valid when charge_mode is set to prePaid. The instance is not automatically renewed by default if no value is specified. Enumerated values: true false
is_auto_pay	No	String	Whether the order is paid from the customer's account balance. The value can be: true: indicates that the order is automatically paid from the customer's account balance. false: indicates that the order needs to be paid manually. This parameter is available if charge_mode is set to prePaid. The order needs to be paid manually by default if no value is specified. Enumerated values: true false

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
```

```
{  
  "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 Obtaining a Project ID .

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 0 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 ShowInstanceBeanResponse 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 Status Description .
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 yyyy-mm-dd Thh:mm:ssZ . T indicates the separator between the calendar and the hourly notation of time. Z indicates Coordinated Universal Time (UTC).
updated	String	Time when the DDM instance is last updated, which is in the same format as created .
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: • true: SSL is enabled for the instance. • false: SSL is disabled for the instance.
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 Obtaining a Project ID .
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 Status Description .
name	String	DDM instance name
created	String	Time when the DDM instance is created. The time must be in the format of yyyy-mm-dd Thh:mm:ssZ .
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 GetDetailfNodesInfo objects	Node information
admin_user_name	String	Username of the administrator. The username:
enable_ssl	Boolean	Whether SSL is enabled. The value can be: • true: SSL is enabled for the instance. • false: SSL is disabled for the instance.
flavor_ref	String	Specification code

Table 4-23 GetDetailfNodesInfo

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 Obtaining a Project ID .
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: • Can include 4 to 64 characters. • Must start with a letter. • Can contain only letters, digits, underscores (_), and hyphens (-).

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 Obtaining a Project ID .
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 Obtaining a Project ID .
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: • true: indicates that the data stored on the associated DB instances is deleted. • false: indicates that the data stored on the associated DB instances is not deleted. It is left blank by default. Enumerated values: • true • false

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 CodesFor 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 Obtaining a Project ID .
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	RestartInstanceInfo object	Restart-related parameter

Table 4-47 RestartInstanceInfo

Parameter	Mandatory	Type	Description
type	No	String	Restart type, which can be soft or hard . • soft: Only the process is restarted. • hard: The instance VM is forcibly restarted. Enumerated values: • soft • hard

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 Obtaining a Project ID .
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: 200

None

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

Parameter	Type	Description
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 Obtaining a Project ID .
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

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.
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. • true: indicates that the order is automatically paid from the account. • false: indicates that the order is manually paid from the account. The default value is false.
available_zones	No	Array of strings	AZ code. This parameter is valid only for yearly/monthly instances. The number of AZs must be same as that specified in node_number . For details, see Regions and Endpoints .

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 Obtaining a Project ID .
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 Obtaining a Project ID .
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 - key: DB instance ID - value: read weight parameter

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 Obtaining a Project ID .
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 Obtaining a Project ID .
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 0 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 NodeList 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 Obtaining a Project ID .
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"

  "subnet_id": "ead1e945-ca89-45dd-bcce-4a30b2054c22"
}
```

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 Obtaining a Project ID .

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 0 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 EngineGroupInfo 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 SupportAzsInfo objects	AZs

Table 4-95 SupportAzsInfo

Parameter	Type	Description
code	String	AZ code

Parameter	Type	Description
name	String	AZ name
avored	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",
      "avored": false
    }, {
      "code": "az2",
      "name": "az2",
      "avored": 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 Obtaining a Project ID .

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 0 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 ComputeFlavorGroupsInfo objects	Compute flavor information

Table 4-102 ComputeFlavorGroupsInfo

Parameter	Type	Description
groupType	String	Compute resource architecture type. The value can be x86 or Arm .
computeFlavors	Array of ComputeFlavors 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 x86 or ARM .

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: • normal: indicates that the node classes in the AZ are available. • unsupported: indicates that the node classes are not supported by the AZ. • sellout: indicates that the node classes in the AZ are sold out.
regionStatus	String	Region status
groupType	String	Compute resource architecture type. The value can be x86 or ARM .
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 Obtaining a Project ID .
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. true : indicates that the order is automatically paid from the account. false : indicates that the order is manually paid from the account. The default value is false .

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 Obtaining a Project ID .
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 0 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 Table 4-114 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: • rw: read/write group • r: read-only group
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: • x86 • Arm
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 Obtaining a Project ID .
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: • Can include 4 to 64 characters. • Must start with a letter. • Can contain only letters, digits, underscores (_), and hyphens (-). Minimum characters: 4 Maximum characters: 64
type	Yes	String	Type of the instance group. rw : read/write group r : 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 Querying DDM Node Classes Available in an AZ .

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 Querying DDM Node Classes Available in an AZ .
nodes	Yes	Array of Table NodeInfo objects	Node information list. Minimum value: 1 Maximum value: 32

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 Regions and Endpoints .
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 Obtaining a Project ID .
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 Obtaining a Project ID .

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 0 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_groups	Array of EngineGroupInfo 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 Obtaining a Project ID .

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 engine_id and engine_version 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 engine_id and engine_version must be specified.
available_zones	No	String	AZs. Use commas (,) to separate multiple AZs, for example, cn-southwest-244a,cn-southwest-244b . The value cannot be empty. For details, see Regions and Endpoints .
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. The value is 0 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 FlavorGroupInfo objects	List of node classes.

Table 4-132 FlavorGroupInfo

Parameter	Type	Description
flavors	Array of Flavor objects	Node class information.
group_type	String	Compute resource architecture type. The value can be x86 or ARM .
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 AvailableZone objects	AZ information. The value can be: normal : indicates that the node classes in the AZ are available. unsupported : indicates that the node classes are not supported by the AZ. sellout : 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 1 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"
            }
          ]
        }
      ]
    }
  ],
  {
    "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"
          }
        ]
      }
    ]
  }
]
```

- 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 Obtaining a Project ID .
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 0 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 zh-cn or en-us . The default value is zh-cn .
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 ConfigurationParameterList 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 Obtaining a Project ID .
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. • true: indicates that the order is automatically paid from the account. • false: indicates that the order is manually paid from the account. The default value is false.
nodes	Yes	Array of Table EnlargeNodeInfo 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 Regions and Endpoints .

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 Obtaining a Project ID .
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. true: indicates that the data stored on the associated DB instances is deleted. false 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 Obtaining a Project ID .
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	true: SSL is enabled. false: 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 Obtaining a Project ID .
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 Obtaining a Project ID .
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 Obtaining a Project ID .
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 Obtaining a Project ID .
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 Obtaining a Project ID .
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 Obtaining a Project ID .
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 Obtaining a Project ID .
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 Obtaining a Project ID .
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 DDM Node Status .
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 *	• g:EnterpriseProjectId • g:ResourceTag/<tag-key>	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	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range The value contains 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value contains 36 characters with a suffix of in09 . Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-179 Request header parameters

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

Table 4-180 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Instance name Constraints • The name can include 4 to 64 characters. • The name must start with a letter. • The name can contain only letters, digits, underscores (_), and hyphens (-). Range N/A Default Value N/A

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	Definition Workflow ID. Range 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*	• g:EnterpriseProjectId • g:ResourceTag/<tag-key>	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	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range The value contains 32 characters. Only letters and digits are allowed. Default Value N/A

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

Request Parameters

Table 4-183 Request header parameters

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

Table 4-184 Request body parameters

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

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*	- g:EnterpriseProjectId - g:ResourceTag/<tag-key>	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	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range The value contains 32 characters. Only letters and digits are allowed. Default Value N/A

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

Request Parameters

Table 4-186 Request header parameters

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

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 *	• g:EnterpriseProjectId • g:ResourceTag/<tag-key>	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	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range The value contains 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value contains 36 characters with a suffix of in09 . Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-188 Request body parameters

Parameter	Mandatory	Type	Description
infos	Yes	Array of EsdbCheckRdsConnectionRequestV3 objects	Definition A collection of information related to checking RDS connectivity. Constraints N/A Range N/A Default Value N/A

Table 4-189 EsdbCheckRdsConnectionRequestV3

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

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

Example Request

Checking RDS connectivity

```
POST https://{endpoint}/v3/a8e2a5e2a6xxxxxxxxx5af5b9ddabe5/instances/  
b7eabbbc6bxxxxxxxxxadfffa99a7c2in09/rds/connection
```

```
{  
  "infos": [{  
    "endpoint": "***.***.***.***.***",  
    "username": "root",  
    "password": "*****",  
    "rds_instance_id": "b944d6e9a8xxxxxxxxx74e257b83c84in01"  
  }]  
}
```

Response Parameters

- Normal response

Table 4-190 Response body parameters

Parameter	Type	Description
rds_check_infos	Array of CheckRdsConnectionResqVO objects	Definition A collection of information related to the RDS connectivity test. Range N/A

Table 4-191 CheckRdsConnectionResqVO

Parameter	Type	Description
rds_instance_id	String	Definition RDS instance ID, which uniquely identifies the instance. Range The value contains 36 characters with a suffix of in09 . Only letters and digits are allowed.
success	String	Definition Whether the connection is successful. Range • true: The RDS connectivity test passed. • false: The RDS connectivity test failed.
error_code	String	Definition Error code of the connectivity check failure. Range N/A
error_message	String	Definition Cause of the connectivity check failure. Range N/A

Example Response

- Normal response example

```
{  
  "rds_check_infos": [ {  
    "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 *	- g:EnterpriseProjectId - g:ResourceTag/<tag-key>	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	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range The value contains 32 characters. Only letters and digits are allowed. Default Value N/A

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

Request Parameters

Table 4-193 Request body parameters

Parameter	Mandatory	Type	Description
readonly	Yes	Boolean	Definition Whether the instance is set to read-only. • true: The instance is set to read-only. • false: The read-only status is canceled. Constraints N/A Range true or false Default Value N/A

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	Definition Workflow ID. Range 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 *	• g:EnterpriseProjectId • g:ResourceTag/<tag-key>	-	-

URI

GET /v3/{project_id}/instances/{instance_id}/tmlogs

Table 4-195 URI parameters

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

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

Table 4-196 Query parameters

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

Request Parameters

Table 4-197 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. Constraints N/A Range N/A Default Value 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 TmlogInfo 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 *	- g:EnterpriseProjectId - g:ResourceTag/<tag-key>	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	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range The value contains 32 characters. Only letters and digits are allowed. Default Value N/A

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

Request Parameters

Table 4-201 Request header parameters

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

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/  
b7eabbbc6bxxxxxxxxxadfffa99a7c2in09/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 Obtaining a Project ID .
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 CreateDatabaseDetail objects	Schema information

Table 4-207 CreateDatabaseDetail

Parameter	Mandatory	Type	Description
name	Yes	String	Schema name, which: • Can include 2 to 48 characters. • Must start with a letter. • Contains only lowercase letters, digits, and underscores (_). • Cannot contain keywords information_schema, mysql, performance_schema, or sys. Minimum length: 2 characters Maximum length: 48 characters
shard_mode	Yes	String	Sharding mode of the schema. The value can be: • cluster: indicates that the schema is in sharded mode. • single: indicates that the schema is in unsharded mode. Enumerated values: • cluster • single
shard_number	Yes	Integer	Number of shards in the same working mode • If shard_unit is not empty, the value is the product of shard_unit multiplied by the associated RDS instances. • If shard_unit 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.

Parameter	Mandatory	Type	Description
shard_unit	No	Integer	Number of shards per RDS instance This parameter is optional. • The value is 1 if the schema is unsharded. • The value ranges from 1 to 64 if the schema is sharded. Minimum value: 1 Maximum value: 64
used_rds	Yes	Array of Table 4-208 objects	RDS instances associated with the schema

Table 4-208 DatabaseInstancesParam

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
adminPassword	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 CreateDatabaseDetailResponses 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 Obtaining a Project ID .
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 0 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 GetDatabaseInfo 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 • cluster: indicates that the schema is in sharded mode. • single: indicates that the schema is in unsharded mode.
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 GetDatabaseUsedRds 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 Obtaining a Project ID .
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	GetDatabaseResponseBean 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 GetDatabaseResponseBeans objects	Sharding information of the schema
shard_mode	String	Sharding mode of the schema cluster: indicates that the schema is in sharded mode. single: indicates that the schema is in unsharded mode.
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 GetDatabaseUsedRds 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 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID To obtain this value, see Obtaining a Project ID .
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	Whether data stored on the associated DB instances is deleted. The value can be: • true: indicates that the data stored on the associated DB instances is deleted. • false: indicates that the data stored on the associated DB instances is not deleted. It is left blank by default. Enumerated values: • true • false

Request Parameters

Table 4-231 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

None

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 Obtaining a Project ID .
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 0 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 QueryAvailableRdsList 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	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range The value contains 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value contains 36 characters with a suffix of in09 . Only letters and digits are allowed. Default Value N/A

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 X-Subject-Token in the response header is the user token.

Table 4-243 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Schema name, which: • Can include 2 to 48 characters. • Must start with a lowercase letter. • Contains only lowercase letters, digits, and underscores (_). • Cannot be the following names: information_schema, mysql, performance_schema, or sys
shard_mode	Yes	String	Sharding mode of the schema. The value can be: • cluster: indicates that the schema is in sharded mode. • single: indicates that the schema is in unsharded mode.

Parameter	Mandatory	Type	Description
shard_number	Yes	Integer	Number of shards in the same working mode - If shard_unit is not empty, the value is the product of shard_unit multiplied by the associated data nodes. - If shard_unit 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.
dn_instances	Yes	Array of DatabaseDnInstances 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: • true: indicates that the data stored on the associated DB instances is deleted. • false: indicates that the data stored on the associated DB instances is not deleted.

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 X-Subject-Token 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 X-Subject-Token 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 Shards objects	Shards of a schema.
status	String	Schema status. CREATING : The logical table is being created. RUNNING : The logical table is running. UNKNOWN : The local table is in other states.
created	String	Creation time. The format is yyyy-MM-ddTHH:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
updated	String	Update time. The format is yyyy-MM-ddTHH:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
name	String	Schema name, which: • Can include 2 to 48 characters. • Must start with a letter. • Contains only lowercase letters, digits, and underscores (_). • Cannot be the following names: information_schema, mysql, performance_schema, or sys
shard_mode	String	Sharding mode of the schema. The value can be: • cluster: indicates that the schema is in sharded mode. • single: indicates that the schema is in unsharded mode.

Parameter	Type	Description
shard_number	Integer	Number of shards in the schema.
data_nodes	Array of DataNodes 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": "253883d46****d3fb38161b57in01",
    "physical_db_name": "ddm_db_test_0000",
    "status": "RUNNING",
    "shard_index": 0
  }, {
    "data_node_id": "253883d46****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 Obtaining a Project ID .
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 X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 4-263 Response body parameters

Parameter	Type	Description
compressed_databases_info	String	Schema information
data_nodes	Array of DnInstanceInfo 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

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

Example Response

Status code: 200

```
{
  "compressed_databases_info": "H4sIAAAAAAAAAAN3cTW/bRhGE4P/
Csw7aL4rUtQUKX3wo0lMQCPxYNQJsOjAplIWR/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 Obtaining a Project ID .
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 X-Subject-Token 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 Exporting Schema Metadata (a V3 API) .
dn_instance	Yes	Array of DNInstance 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 Obtaining a Project ID .
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 0 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 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 X-Subject-Token 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 AvailableDnInstance 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
```

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 0 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 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 X-Subject-Token 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 AvailableDnInstance 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 X-Subject-Token in the response header is the user token.

Table 4-290 Request body parameters

Parameter	Mandatory	Type	Description
data_nodes	Yes	Array of DataNode 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 PreCheckResult 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 Pre-checking Shard Configuration (a V3 API) .

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 X-Subject-Token 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 PreCheckResult 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: SUCCESS : successful FAILED : failed WARN : 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 CodesFor 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 X-Subject-Token in the response header is the user token.

Table 4-304 Request body parameters

Parameter	Mandatory	Type	Description
data_nodes	Yes	Array of DataNode 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, 17:00:00). 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, 18:00:00). 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	Whether shard configuration exclusively occupies a node. The default value is false. The value can be: • true: It exclusively occupies a node. • false: It does not exclusively occupy a node. • If this parameter is set to true, 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. • If this parameter is set to true, you need to enable load balancing for the default group and ensure that the number of nodes exceeds one.

Table 4-305 DataNode

Parameter	Mandatory	Type	Description
id	Yes	String	Data node ID
user	Yes	String	Database user • 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

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": "xxxxxxx-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 Configuring Shards (a V3 API) .

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 X-Subject-Token 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 MigrateDnInfoOpenResponse objects	Information about data nodes before configuration

Parameter	Type	Description
after_dn_info_list	Array of MigrateDnInfoOpenResponse objects	Information about data nodes after configuration
switch_route_is_manual	Boolean	Whether manual route switching is used. • true: Manual route switching is used. • false: Automatic route switching is used.
auto_switch_begin_time	String	Time when the automatic route switching starts (in the <i>hh:mm:ss</i> format, for example, 17:00:00)
auto_switch_end_time	String	Time when the automatic route switching ends (in the <i>hh:mm:ss</i> format, for example, 18:00:00)
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: • true: It exclusively occupies a node. • false: It does not exclusively occupy a node.

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 Configuring Shards (a V3 API) .

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 X-Subject-Token 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": "xxxxxxx-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 Configuring Shards (a V3 API) .

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 X-Subject-Token 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 Configuring Shards (a V3 API) .

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 X-Subject-Token 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 Configuring Shards (a V3 API) .

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 X-Subject-Token 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": "xxxxxxx-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 Configuring Shards (a V3 API) .

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 X-Subject-Token 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, 17:00:00) • If switch_route_begin_time and switch_route_end_time are not included in the request body, a manual route switching policy is used. • The interval between the start time and end time cannot exceed 1 hour.
switch_route_end_time	No	String	Time when the automatic route switching ends (in the <i>hh:mm:ss</i> format, for example, 18:00:00) • If switch_route_begin_time and switch_route_end_time are not included in the request body, a manual route switching policy is used. • The interval between the start time and end time cannot exceed 1 hour.
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 Configuring Shards (a V3 API) .

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 X-Subject-Token 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](#).

4.3.23 Unbinding a Schema (a V3 API)

Function

This API is used to unbind a schema.

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:database:unbind	Write	database*	- g:EnterpriseProjectId - g:ResourceTag/<tag-key>	-	-

URI

POST /v3/{project_id}/instances/{instance_id}/databases/{logic_db_name}/unbind

Table 4-344 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are supported. Default Value N/A

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance Constraints N/A Range The value contains 36 characters with a suffix of in09 . Only letters and digits are allowed. Default Value N/A
logic_db_name	Yes	String	Name of the schema to be unbound

Request Parameters

Table 4-345 Request header parameters

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

Example Request

Unbinding a schema

```
POST https://{endpoint}/v3/a8e2a5e2a6xxxxxxxxx5af5b9ddabe5/instances/  
b7eabbbc6bxxxxxxxxxadffa99a7c2in09/databases/db_xxxx/unbind
```

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](#).

4.4 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 4-346 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Request Parameters

Table 4-347 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 4-348 Request body parameters

Parameter	Mandatory	Type	Description
users	Yes	Array of CreateUsersInfo objects	DDM account information

Table 4-349 CreateUsersInfo

Parameter	Mandatory	Type	Description
name	Yes	String	Username of the DDM account, which: • Can include 1 to 32 characters. • Must start with a letter. • Can contain only letters, digits, and underscores (_). Minimum length: 1 character Maximum length: 32 characters
password	Yes	String	DDM account password

Parameter	Mandatory	Type	Description
base_authority	Yes	Array of strings	Basic permissions of the DDM account. The value can be CREATE , DROP , ALTER , INDEX , INSERT , DELETE , UPDATE , or SELECT . Enumerated values: • CREATE • DROP • ALTER • INDEX • INSERT • DELETE • UPDATE • SELECT
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 CreateUsersDatabases objects	Associated schemas. The databases field is optional. You can create a DDM account without associating it with any schema.

Table 4-350 CreateUsersDatabases

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the associated schema

Response Parameters

Status code: 200

Table 4-351 Response body parameters

Parameter	Type	Description
users	Array of CreateUsersDetailResponses objects	DDM account information

Table 4-352 CreateUsersDetailResponses

Parameter	Type	Description
name	String	Username of the DDM account

Status code: 400**Table 4-353** Response body parameters

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

Status code: 500**Table 4-354** 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
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 4-355 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Table 4-356 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 0 by default. The value must be a positive integer.
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 4-357 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 4-358 Response body parameters

Parameter	Type	Description
users	Array of GetUsersListDetailResponses 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 4-359 GetUsersListDetailResponses

Parameter	Type	Description
name	String	Username of the DDM account
status	String	Status of the DDM account
base_authority	Array of strings	Basic permissions of the DDM account. The value can be CREATE , DROP , ALTER , INDEX , INSERT , DELETE , UPDATE , or SELECT .
extend_authority	Array of strings	Extended permissions of the DDM account. The value can be fulltableDelete , fulltableSelect , or fulltableUpdate .
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 GetUsersListDatabase objects	Associated schemas

Table 4-360 GetUsersListdatabase

Parameter	Type	Description
name	String	Name of the schema associated with the DDM account
description	String	Schema description

Status code: 400**Table 4-361** Response body parameters

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

Status code: 500**Table 4-362** 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 4-363 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID
username	Yes	String	Username of the DDM account

Request Parameters

Table 4-364 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 4-365 Request body parameters

Parameter	Mandatory	Type	Description
user	Yes	UpdateUserDetailReq object	DDM account information

Table 4-366 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 CREATE , DROP , ALTER , INDEX , INSERT , DELETE , UPDATE , or SELECT . Enumerated values: • CREATE • DROP • ALTER • INDEX • INSERT • DELETE • UPDATE • SELECT
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 UpdateUsersDatabases objects	DDM account information

Table 4-367 UpdateUsersDatabases

Parameter	Mandatory	Type	Description
name	No	String	Schema name, which is case-insensitive. The databases and name fields must be both or neither specified. The parameter is left blank by default.

Response Parameters

Status code: 200

Table 4-368 Response body parameters

Parameter	Type	Description
name	String	Username of the DDM account

Status code: 400

Table 4-369 Response body parameters

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

Status code: 500

Table 4-370 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 4-371 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID
username	Yes	String	Username of the DDM account to be deleted

Request Parameters

Table 4-372 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 4-373 Response body parameters

Parameter	Type	Description
name	String	Username of the DDM account

Status code: 400

Table 4-374 Response body parameters

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

Status code: 500

Table 4-375 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 4-376 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID
username	Yes	String	Username of the DDM account to be modified

Request Parameters

Table 4-377 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 4-378 Request body parameters

Parameter	Mandatory	Type	Description
password	Yes	String	New password

Response Parameters

Status code: 200

Table 4-379 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 4-380** Response body parameters

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

Status code: 500**Table 4-381** 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 4-382 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Request Parameters

Table 4-383 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 4-384 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Username of the administrator. The username: • Can include 1 to 32 characters. • Must start with a letter. • Can contain only letters, digits, and underscores (_).
password	Yes	String	Password of the administrator. The password: • Can include 8 to 32 characters. • Must be a combination of uppercase letters, lowercase letters, digits, and the following special characters: ~!@#%^*-_+? Must be a strong password to improve security and prevent security risks such as brute force cracking.

Response Parameters

Status code: default

Table 4-385 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 4-386 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .

Request Parameters

Table 4-387 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 4-388 Request body parameters

Parameter	Mandatory	Type	Description
password	Yes	String	Character string to be validated

Response Parameters

Status code: 200

Table 4-389 Response body parameters

Parameter	Type	Description
is_weak_password	Boolean	Whether the password is a weak password. The value can be: true : indicating that the password is a weak password. Such a password is not recommended. false : indicating that the password is not a weak password. Such a password is recommended.

Status code: 400

Table 4-390 Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

Status code: 500**Table 4-391** 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 *	• g:EnterpriseProjectId • g:ResourceTag/<tag-key>	ddm:user:create	-

URI

POST /v3/{project_id}/instances/{instance_id}/users

Table 4-392 URI parameters

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

Request Parameters

Table 4-393 Request header parameters

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

Table 4-394 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Instance account name. Constraints • The name can contain 1 to 32 characters. • The name must start with a letter. • The name can contain only letters, digits, and underscores (_). Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
password	Yes	String	Definition Instance account password. Constraints • The password can include 8 to 32 characters. • The password must contain at least three types of lowercase letters, uppercase letters, digits, swung dashes (~), and exclamation marks (!). @ # / % ^ * - _ + ? • The password cannot be a weak password. It cannot be overly simple and easily guessed. • The password cannot be the same as username or username in reverse order. Range N/A Default Value N/A
base_authority	Yes	Array of strings	Definition Basic permissions of the DDM account. Constraints None Range Any combination of CREATE, DROP, ALTER, INDEX, INSERT, DELETE, UPDATE, and SELECT Default Value N/A

Parameter	Mandatory	Type	Description
description	No	String	Definition Instance account description. Constraints The value can contain a maximum of 256 characters. Range N/A Default Value N/A
password_lifetime	No	Long	Definition Password validity period of a DDM account. Constraints N/A Range The value is an integer ranging from 0 to 65535, in days. The value 0 or null indicates that the password never expires. Default Value The default value is null, indicating that the password never expires.
databases	No	Array of CreateUserRelatedLogicDbV3 objects	Associated schemas. The databases field is optional. You can create a DDM account without associating it with any schema.

Table 4-395 CreateUserRelatedLogicDbV3

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Name of a created schema. Permissions for this schema are granted to the account. Constraints N/A Range N/A Default Value N/A

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 *	• g:EnterpriseProjectId • g:ResourceTag/<tag-key>	ddm:user:list	-

URI

GET /v3/{project_id}/instances/{instance_id}/users

Table 4-396 URI parameters

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

Table 4-397 Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Definition Which page the server starts returning items Constraints N/A Range The value is greater than or equal to 0. Default Value 0
limit	No	Integer	Definition Number of records on each page Constraints N/A Range The value is greater than 0 and less than or equal to 128 . Default Value 10

Request Parameters

Table 4-398 Request header parameters

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

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 4-399 Response body parameters

Parameter	Type	Description
users	Array of GetUsersListDetailResponses objects	Definition DDM account information Range N/A
offset	Integer	Definition Which page the server starts returning items Range The value is greater than or equal to 0 .
limit	Integer	Definition Number of records on each page Range The value is greater than 0 and less than or equal to 128 .
total	Integer	Definition Total number of records Range N/A

Table 4-400 GetUsersListDetailResponses

Parameter	Type	Description
name	String	Definition Name of a DDM account Range N/A
status	String	Definition Status of the DDM account Range N/A
base_authority	Array of strings	Definition Basic permissions of the DDM account Range The value can be CREATE , DROP , ALTER , INDEX , INSERT , DELETE , UPDATE , or SELECT .
password_lifetime	Long	Definition Password validity period of a DDM account Range The value is an integer ranging from 0 to 65535, in days. The value 0 or null indicates that the password never expires.
password_last_changed	String	Definition Time when the password of the DDM account was last changed The format is yyyy-mm-ddThh:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Range N/A
description	String	Definition Account description Range N/A

Parameter	Type	Description
created	String	Definition Time when the DDM account was created The format is yyyy-mm-ddThh:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Range N/A
databases	Array of GetUsersListdatabase objects	Definition Associated schemas. The account can access only the associated schemas. Range N/A
expiration_time	String	Definition Time when the password of the DDM account expires The format is yyyy-mm-ddThh:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Range N/A

Table 4-401 GetUsersListdatabase

Parameter	Type	Description
name	String	Definition Name of the associated schema Range N/A

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 *	- g:EnterpriseProjectId - g:ResourceTag/<tag-key>	ddm:user:modify	-

URI

PUT /v3/{project_id}/instances/{instance_id}/users/{username}

Table 4-402 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are supported. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance Constraints N/A Range The value contains 36 characters with a suffix of in09 . Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
username	Yes	String	Definition Name of the account to be modified. Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 4-403 Request header parameters

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

Table 4-404 Request body parameters

Parameter	Mandatory	Type	Description
base_authority	No	Array of strings	Definition Basic permissions of the DDM account Constraints None Range Any combination of CREATE , DROP , ALTER , INDEX , INSERT , DELETE , UPDATE , and SELECT Default Value N/A
description	No	String	Definition Instance account description Constraints The value can contain a maximum of 256 characters. Range N/A Default Value N/A
password_lifetime	No	Long	Definition Password validity period of a DDM account Constraints N/A Range The value is an integer ranging from 0 to 65535, in days. The value 0 or null indicates that the password never expires. Default Value The default value is null , indicating that the password never expires.

Parameter	Mandatory	Type	Description
databases	No	Array of UpdateUserRelatedLogicDbV3 objects	Associated schemas The databases field is optional. You can create a DDM account without associating it with any schema.

Table 4-405 UpdateUserRelatedLogicDbV3

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Name of a created schema. Permissions for this schema are granted to the account. Constraints N/A Range N/A Default Value N/A

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 *	- g:EnterpriseProjectId - g:ResourceTag/<tag-key	ddm:user:delete	-

URI

DELETE /v3/{project_id}/instances/{instance_id}/users/{username}

Table 4-406 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are supported. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance Constraints N/A Range The value contains 36 characters with a suffix of in09 . Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
username	Yes	String	Definition Username of the account to be deleted Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 4-407 Request header parameters

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

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*	• g:EnterpriseProjectId • g:ResourceTag/<tag-key>	ddm:user:modify	-

URI

POST /v3/{project_id}/instances/{instance_id}/users/{username}/password

Table 4-408 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are supported. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance Constraints N/A Range The value contains 36 characters with a suffix of in09 . Only letters and digits are allowed. Default Value N/A
username	Yes	String	Definition Name of the account whose password needs to be reset Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 4-409 Request header parameters

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

Table 4-410 Request body parameters

Parameter	Mandatory	Type	Description
password	Yes	String	Definition Instance account password Constraints - The password can include 8 to 32 characters. - The password must contain at least three types of lowercase letters, uppercase letters, digits, swung dashes (~), and exclamation marks (!). @ # / % ^ * - _ + ? - The password cannot be a weak password. It cannot be overly simple and easily guessed. - The password cannot be the same as username or username in reverse order. Range N/A Default Value N/A

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 4-411 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Request Parameters

Table 4-412 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 4-413 Response body parameters

Parameter	Type	Description
job	JobInfo object	Task information.

Table 4-414 JobInfo

Parameter	Type	Description
id	String	Task ID
name	String	Task name

Parameter	Type	Description
status	String	Task execution status. The value can be: Running : The task is being executed. Completed : The task is successfully executed. Failed : The task fails to be executed.
created_time	String	Creation time in the "yyyy-mm-ddThh:mm:ssZ" format. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
end_time	String	End time. The format is yyyy-mm-ddThh:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
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	Instance object	Instance on which the task is executed

Table 4-415 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 4-416 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .

Table 4-417 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 0 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 4-418 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 X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 4-419 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 JobItem objects	Task list

Table 4-420 JobItem

Parameter	Type	Description
id	String	Task ID
name	String	Task name
status	String	Task execution status Values: Running : The task is being executed. Completed : The task is successfully executed. Failed : The task fails to be executed.
created_time	String	Creation time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Central European time zone, the offset is +0100 .
end_time	String	End time. The format is yyyy-mm-ddThh:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Central European time zone, the offset is +0100 .
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_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 4-421 Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

Status code: 500**Table 4-422** 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 CodesFor 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 4-423 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Table 4-424 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 4-425 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 4-426 Response body parameters

Parameter	Type	Description
totalRecord	Integer	Number of slow query logs
slowLogList	Array of SlowLogList objects	Information about slow query logs

Table 4-427 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 yyyy-mm-ddThh:mm:ssZ .
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 4-428** Response body parameters

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

Status code: 500**Table 4-429** 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 4-430 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Table 4-431 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 0 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 4-432 Response body parameters

Parameter	Type	Description
total_count	Integer	Total records.
logical_processes	Array of Table 4-433 objects	Logical session list of a DDM instance.

Table 4-433 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 sleep , query , or connect .
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 4-434 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Request Parameters

Table 4-435 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 4-436 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 4-437 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 4-438 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	ID of the associated RDS DB instance.

Table 4-439 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 0 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 4-440 Response body parameters

Parameter	Type	Description
total_count	Integer	Total records.
physical_processes	Array of Table 4-441 objects	Physical session list of a DDM instance.

Table 4-441 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 sleep , query , or connect .
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 4-442 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	ID of the associated RDS DB instance.

Request Parameters

Table 4-443 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 4-444 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 4-445 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 4-446 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID or ID of the associated RDS instance.

Table 4-447 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 0 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. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
end_time	Yes	String	End time in UTC, accurate to milliseconds. The format is yyyy-mm-ddThh:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . 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 4-448 Response body parameters

Parameter	Type	Description
total_count	Integer	Total records.
process_audit_logs	Array of Table 4 UserProcess AuditLog objects	Audit log list of killing a session.

Table 4-449 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 4-450 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Request Parameters

Table 4-451 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 4-452 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 4-453 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Request Parameters

Table 4-454 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 4-455 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 4-456 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 4-457 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Request Parameters

Table 4-458 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 4-459 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 4-460 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Request Parameters

Table 4-461 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 4-462 Response body parameters

Parameter	Type	Description
risks	Array of RiskInfo objects	Kernel risk information

Table 4-463 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 4-464 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .

Table 4-465 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 0 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 4-466 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

This API is used to query backups.

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

Response

- Normal response

Table 4-467 Response body parameters

Parameter	Type	Description
backups	Array of BackupInfo objects	Backup list.
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 backup records

Table 4-468 BackupInfo

Parameter	Type	Description
id	String	Backup ID
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_statuses	String	Instance status
file_size	Double	Backup size, in KB
created	String	Creation time. The format is yyyy-MM-ddTHH:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
updated	String	Update time. The format is yyyy-MM-ddTHH:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
backup_type	String	Backup type: auto_metadata : Metadata backup is triggered by a scheduled task every day. metadata : 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 4-469 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .

Parameter	Mandatory	Type	Description
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 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 4-471 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 4-472 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 4-473 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 X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 4-474 Response body parameters

Parameter	Type	Description
id	String	Backup ID
name	String	Backup name
instance_id	String	Instance ID

Parameter	Type	Description
instance_name	String	Instance name
related_data_nodes	Array of RelatedDn objects	Associated data nodes

Table 4-475 RelatedDn

Parameter	Type	Description
instance_id	String	Data node ID
instance_name	String	Data node name

Status code: 400**Table 4-476** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

Status code: 500**Table 4-477** 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 4-478 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Table 4-479 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 0 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 queried by default.
restore_time	Yes	String	Point in time to which the tables are restored.

Request Parameters

Table 4-480 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 X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 4-481 Response body parameters

Parameter	Type	Description
related_data_nodes	Array of RelatedDnVO objects	Associated data nodes
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 4-482 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 4-483 Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

Status code: 500

Table 4-484 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 4-485 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Table 4-486 Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Definition Which page the server starts returning items Constraints N/A Range The value is greater than or equal to 0. Default Value 0

Parameter	Mandatory	Type	Description
limit	No	Integer	Definition Number of records on each page Constraints N/A Range The value is greater than 0 and less than or equal to 128 . Default Value 10

Request Parameters

Table 4-487 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 X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 4-488 Response body parameters

Parameter	Type	Description
restorable_time_intervals	Array of RestoreTimeInterval 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 4-489 RestoreTimeInterval

Parameter	Type	Description
start_time	String	Start time in UTC, accurate to milliseconds. The format is <i>yyyy-mm-ddThh:mm:ssZ</i> . T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
end_time	String	End time in UTC, accurate to milliseconds. The format is <i>yyyy-mm-ddThh:mm:ssZ</i> . T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .

Status code: 400**Table 4-490** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

Status code: 500**Table 4-491** 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 4-492 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Table 4-493 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 0 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 queried by default.

Request Parameters

Table 4-494 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 X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200**Table 4-495** Response body parameters

Parameter	Type	Description
target_data_nodes	Array of TargetDn4Restore objects	Target available data nodes.
offset	Integer	Definition Which page the server starts returning items Range The value is greater than or equal to 0 .
limit	Integer	Definition Number of records on each page Range The value is greater than 0 and less than or equal to 128 .
total	Integer	Definition Total number of records Range N/A

Table 4-496 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 4-497** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

Status code: 500**Table 4-498** 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=41c239a1e9bd4cd2aabd678bab45a886in01&target_instance_id=2f0324a93859487eb  
5566d75951fcd2din09&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
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 4-499 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Table 4-500 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 0 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 queried by default.

Request Parameters

Table 4-501 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 X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200**Table 4-502** Response body parameters

Parameter	Type	Description
instances	Array of DDMInstance4Restore objects	Target available DDM instances.
offset	Integer	Definition Which page the server starts returning items Range The value is greater than or equal to 0 .
limit	Integer	Definition Number of records on each page Range The value is greater than 0 and less than or equal to 128 .
total	Integer	Definition Total number of records Range N/A

Table 4-503 DDMinstance4Restore

Parameter	Type	Description
instance_name	String	Instance name
instance_id	String	Instance ID
status	String	Status.
available	Boolean	Available or not
unavailable_reason	String	Reason why the instance cannot be used.
vpc_name	String	VPC name.

Status code: 400**Table 4-504** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

Status code: 500**Table 4-505** 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 CodesFor 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 4-506 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Request Parameters

Table 4-507 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 X-Subject-Token in the response header is the user token.

Table 4-508 Request body parameters

Parameter	Mandatory	Type	Description
source	Yes	RestoreMetaDataSource object	Source instance for metadata restoration.
target	Yes	RestoreMetaDataTarget object	Target instance for metadata restoration.

Table 4-509 RestoreMetaDataSource

Parameter	Mandatory	Type	Description
restore_time	No	Number	Restoration timestamp, accurate to milliseconds. (Either backup_id or restore_time needs to be specified.)

Parameter	Mandatory	Type	Description
backup_id	No	String	Backup ID. (Either restore_time or backup_id needs to be specified.)

Table 4-510 RestoreMetaDataTarget

Parameter	Mandatory	Type	Description
data_nodes	Yes	Array of strings	Target data nodes. They can be obtained from Querying Data Nodes Available to Restore Data to a Point in Time (a V3 API) . 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 Querying Instances That Can Be Used for Restoration (a V3 API) .

Response Parameters

Status code: 202

Table 4-511 Response body parameters

Parameter	Type	Description
job_id	String	Task ID.

Status code: 400

Table 4-512 Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

Status code: 500**Table 4-513** 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

Status Codes	Description
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 4-514 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .
instance_id	Yes	String	DDM instance ID

Request Parameters

Table 4-515 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 X-Subject-Token in the response header is the user token.

Table 4-516 Request body parameters

Parameter	Mandatory	Type	Description
source	Yes	RestoreInstSource object	Source instance for data restoration.
target	Yes	RestoreInstTarget object	Target instance for data restoration.
data_node_relations	Yes	Array of DataNodeRelation objects	Associated data nodes.

Table 4-517 RestoreInstSource

Parameter	Mandatory	Type	Description
restore_time	Yes	Number	Point in time to which the tables are restored.

Table 4-518 RestoreInstTarget

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.

Table 4-519 DataNodeRelation

Parameter	Mandatory	Type	Description
source_instance_id	Yes	String	Source data node ID. It can be obtained from Querying Data Nodes Associated with an Instance at a Restoration Time Point (a V3 API) .
target_instance_id	Yes	String	Target data nodes. They can be obtained from Querying Data Nodes Available to Restore Data to a Point in Time (a V3 API) .

Response Parameters

Status code: 202

Table 4-520 Response body parameters

Parameter	Type	Description
job_id	String	Task ID.

Status code: 400**Table 4-521** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

Status code: 500**Table 4-522** 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 4-523 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID .

Table 4-524 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 0 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 4-525 Response body parameters

Parameter	Type	Description
configurations	Array of Configuratio nInfo objects	Information of available engines

Parameter	Type	Description
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 4-526 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. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
updated	String	Update time. The format is yyyy-MM-ddTHH:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
user_defined	Boolean	Whether the parameter template is a custom template. The value can be: false : The parameter template is a default template. true : 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 4-527 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see Obtaining a Project ID .

Parameter	Mandatory	Type	Description
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 Obtaining Parameter Templates .

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 4-528 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. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
updated	String	Update time. The format is yyyy-MM-ddTHH:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .

Parameter	Type	Description
configuration_parameters	Array of Configuration Parameters objects	Parameters defined by users based on a default parameter template

Table 4-529 ConfigurationParameters

Parameter	Type	Description
name	String	Parameter name
value	String	Parameter value
restart_required	Boolean	Whether a restart is required. The value can be: ● false: indicates that a restart is not required. ● true: indicates that a restart is required.
readonly	Boolean	Whether the parameter is read-only. The value can be: ● false: indicates that the parameter is not read-only. ● true: indicates that the parameter is read-only.
value_range	String	Indicates the parameter value range. If the type is integer , the value is 0 or 1 . If the type is boolean , the value is true or false .
type	String	Parameter type. The value can be string , integer , boolean , list , or float .
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 Creating a Parameter Template (a V3 API)

Function

This API is used to create a parameter template.

URI

POST /v3/{project_id}/configurations

Table 4-530 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region

Request Parameters

Table 4-531 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 X-Subject-Token in the response header is the user token.

Table 4-532 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>	Definition Parameter values defined by users based on a default parameter template. Constraints N/A Range • key: parameter name, for example, contains_shard_key or connection_idle_timeout. If this parameter is not specified, no parameter value is to be changed. • value: parameter value, for example, 6 or 20. If key is not empty, the parameter value cannot be empty, either. Default Value N/A

Example Request

Creating a parameter template

```
POST https://{endpoint}/v3/{project_id}/configurations
{
  "name" : "param1688972688",
  "description" : "test"
}
```

Response Parameters

- Normal response

Table 4-533 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](#).

4.10.4 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 4-534 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 4-535 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 X-Subject-Token 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](#).

4.10.5 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 4-536 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are supported. Default Value N/A
config_id	Yes	String	Definition Parameter template ID Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Table 4-537 Query parameters

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

Request Parameters

None

Example Request

Querying parameter template application records

GET https://{endpoint}/v3/configurations/{config_id}/apply-histories

Response Parameters

- Normal response

Table 4-538 Response body parameters

Parameter	Type	Description
histories	Array of ApplyHistory objects	Definition Information about parameter template application records. Range N/A
total	Integer	Definition Total number of parameter application records. Range N/A

Table 4-539 ApplyHistory

Parameter	Type	Description
target_id	String	Definition Parameter template ID Range N/A
target_name	String	Definition Parameter template name Range N/A
apply_result	String	Definition Result of applying the parameter template to the instance Range • SUCCESS: The parameter template is successfully applied to the instance. • FAILED: The parameter template fails to be applied to the instance. • APPLYING: The parameter template is being applied to the instance.

Parameter	Type	Description
applied_at	String	Definition Date when the template is applied. The format is yyyy-mm-ddThh:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Range N/A
error_message	String	Definition 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. Range N/A

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](#).

4.10.6 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 4-540 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are supported. Default Value N/A
config_id	Yes	String	Definition Parameter template ID Constraints A default parameter template cannot be replicated. Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-541 Request body parameters

Parameter	Mandatory	Type	Description
new_name	Yes	String	Definition Name of the new parameter template Constraints N/A Range The parameter template name can contain 1 to 64 characters. It can contain only letters, digits, hyphens (-), underscores (_), and periods (.). Default Value N/A
description	No	String	Definition Description of the new parameter template. Constraints N/A Range The value can contain a maximum of 256 characters and cannot contain carriage return characters or the following special characters ! < " = ' > & Default Value N/A

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](#).

4.10.7 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 4-542 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are supported. Default Value N/A
config_id	Yes	String	Definition Parameter template ID Constraints The default parameter template cannot be updated. Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-543 Request body parameters

Parameter	Mandatory	Type	Description
description	No	String	Definition Parameter template description Constraints N/A Range The value can contain a maximum of 256 characters and cannot contain carriage return characters or the following special characters ! < " = ' > & Default Value N/A
values	Yes	Map<String,String>	Definition Parameter values defined by users based on a default parameter template. Constraints N/A Range • key: parameter name, for example, contains_shard_key or connection_idle_timeout. If this parameter is not specified, no parameter value is to be changed. • value: parameter value, for example, 6 or 20. If key is not empty, the parameter value cannot be empty, either. Default Value N/A

Parameter	Mandatory	Type	Description
name	No	String	Definition Parameter template name Constraints N/A Range The template name can contain 1 to 64 characters. Only letters (case-sensitive), digits, hyphens (-), underscores (_), and periods (.) are allowed. Default Value N/A

Example Request

Updating a parameter template

```
PUT https://{endpoint}/v3/a8e2a5e2a6xxxxxxxxx5af5b9ddabe5/configurations/  
849c450a43xxxxxxxxxf33cff5f0717pr09
```

```
{  
  "values" : {  
    "ddl_flowcontrol_threshold" : "10005"  
  }  
}
```

Response Parameters

- Normal response

Table 4-544 Response body parameters

Parameter	Type	Description
need_restart	Boolean	Definition Whether a DDM instance needs to be restarted. Range • false: The DDM instance does not need to be restarted. • true: The DDM instance needs to be restarted.

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](#).

4.10.8 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*	- g:EnterpriseProjectId - g:ResourceTag/<tag-key>	ddm:instance:list	-

URI

GET /v3/{project_id}/configurations/{config_id}/query-instances

Table 4-545 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are supported. Default Value N/A
config_id	Yes	String	Definition Parameter template ID Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Table 4-546 Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Definition Which page the server starts returning items Constraints N/A Range The value is greater than or equal to 0 . Default Value 0
limit	No	Integer	Definition Number of records on each page Constraints N/A Range The value is greater than 0 and less than or equal to 128 . Default Value 10

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 4-547 Response body parameters

Parameter	Type	Description
entities	Array of ApplicableInstance objects	Definition Returned information about the list of instances that the parameter template can be applied to. Range N/A
total	Integer	Definition Total number of instances that a parameter template can be applied to. Range N/A

Table 4-548 ApplicableInstance

Parameter	Type	Description
instance_id	String	Definition Instance ID, which uniquely identifies an instance Range The value contains 36 characters with a suffix of in09 . Only letters and digits are allowed.
instance_name	String	Definition Instance name Range N/A

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](#).

4.10.9 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 4-549 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are supported. Default Value N/A

Request Parameters

Table 4-550 Request body parameters

Parameter	Mandatory	Type	Description
source_id	Yes	String	Definition Source parameter template ID Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
target_id	Yes	String	Definition Target parameter template ID Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Example Request

Comparing two parameter templates

```
PUT https://{endpoint}/v3/a8e2a5e2a6xxxxxxxxx5af5b9ddabe5/configurations/diff
```

```
{
  "source_id" : "849c450a43xxxxxxxxxf33cff5f0717pr09",
  "target_id" : "8368f6642dxxxxxxxxx9d683c00b7f0pr09"
}
```

Response Parameters

- Normal response

Table 4-551 Response body parameters

Parameter	Type	Description
source_id	String	Definition Source parameter template ID Range The value can contain 36 characters. Only letters and digits are allowed.
source_name	String	Definition Source parameter template name Range N/A
target_id	String	Definition Target parameter template ID Range The value can contain 36 characters. Only letters and digits are allowed.

Parameter	Type	Description
target_name	String	Definition Target parameter template name Range N/A
parameters	Array of ParamGroupParameterDiffV3 objects	Definition Returned information about parameter template comparison Range N/A

Table 4-552 ParamGroupParameterDiffV3

Parameter	Type	Description
name	String	Definition Parameter name Range N/A
source_value	String	Definition Source parameter value Range N/A
target_value	String	Definition Target parameter value Range 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",
```

```
"ram_capacity": "4",
"node_status": "RUNNING",
"enterprise_project_id": "0",
"project_id": "070c071d8e80d58c2f42c0121b10cf9f",
"engine_version": "2.5.10.10222119"
},
{
  "page_no": 1,
  "page_size": 1,
  "total_record": 10,
  "total_page": 10
}
```

Step 2 Collect query results.

1. Repeat step 1 until the returned query result is empty or the returned body does not contain the **instances** field. This indicates that all DDM instances have been queried.
2. The collected DDM instances are the desired query results.

----End

4.11.2 Modifying the Name of a DDM Instance

Scenarios

This section describes how to modify the name of a DDM instance using an API. For details, see [Modifying the Name of a DDM Instance](#).

Procedure

Step 1 Modify the name of a DDM instance.

- API Information
URI format: PUT /v1/{project_id}/instances/{instance_id}/modify_name
For details, see [Modifying the Name of a DDM Instance](#).
- Example request
PUT: https://{endpoint}/v1/743b4c0428d945316666666666666666/instances/modify_name
{
 "name": "ddm-testaa"
}
Obtain the endpoint from [Regions and Endpoints](#).

– Example response
{
 "name": "ddm-testaa"
}

----End

4.11.3 Deleting a DDM instance

Scenarios

This section describes how to delete a DDM instance by calling an API. For details, see [Deleting a DDM Instance](#).

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 and Supported Actions

5.1 Introduction

You can use Identity and Access Management (IAM) for fine-grained permissions management of your DDM instances. If your HUAWEI ID does not need individual IAM users, you can skip this section.

With IAM, you can control access to specific Huawei Cloud resources from principals (IAM users, user groups, agencies, or trust agencies). IAM supports role/policy-based authorization and identity policy-based authorization.

The following table describes the differences between these two authorization models.

Table 5-1 Differences between role/policy-based and identity policy-based authorization

Autho rization Model	Core Relation ship	Permissio ns	Authorization Method	Description
Role/ Policy	User-permission-authorization scope	• System-defined roles • System-defined policies • Custom policies	Assigning roles or policies to principals	To authorize a user, you need to add it to a user group first and then specify the scope of authorization. It provides a limited number of condition keys and cannot meet the requirements of fine-grained permissions control. This method is suitable for small- and medium-sized enterprises.

Authorization Model	Core Relationship	Permissions	Authorization Method	Description
Identity policy	User-policy	- System-defined identity policies - Custom identity policies	- Assigning identity policies to principals - Attaching identity policies to principals	You can authorize a user by attaching an identity policy to it. User-specific authorization and a variety of key conditions allow for more fine-grained permissions control. However, this model can be hard to set up. It requires a certain amount of expertise and is suitable for medium- and large-sized enterprises.

Assume that you want to grant IAM users the permissions needed to create DDM instances in CN North-Beijing4 and OBS buckets in CN South-Guangzhou. With role/policy-based authorization, the administrator needs to create two custom policies and assign both to the IAM users. With identity policy-based authorization, the administrator only needs to create one custom identity policy and configure the condition key **g:RequestedRegion** for the policy, and then attach the policy to the users or grant the users the access permissions to the specified regions. Identity policy-based authorization is more flexible than role/policy-based authorization.

Policies/identity policies and actions in the two authorization models are not interoperable. You are advised to use the identity policy-based authorization model.

If you use IAM users in your account to call an API, the IAM users must be granted the required permissions. The required permissions are determined by the actions supported by the API. Only users with the policies allowing for those actions can call the API successfully.

Assume that an IAM user wants to call an API to query users of a DDM instance. With policy-based authorization, the IAM user must be granted the permissions allowing for action **ddm:instance:list**. With identity policy-based authorization, the IAM user must be granted the permissions allowing for action **ddm:instance:listUser**.

5.2 Actions Supported by Policy-based Authorization

This section describes the actions supported by DDM in policy-based authorization.

Supported Actions

DDM provides system-defined policies that can be directly used in IAM. You can also create custom policies to supplement system-defined policies for more refined access control. Operations supported by policies are specific to APIs. The following are common concepts related to policies:

- **Permissions:** statements that allow or deny certain operations.
- **APIs:** REST APIs that can be called by a user who has been granted specific permissions
- **Actions:** specific operations that are allowed or denied in a custom policy
- **Dependencies:** actions which a specific action depends on. When allowing an action for a user, you also need to allow any existing action dependencies for that user.
- **IAM projects/Enterprise projects:** the authorization scope of a custom policy. A custom policy can be applied to IAM projects or enterprise projects or both. Policies that contain actions for both IAM and enterprise projects can be used and applied for both IAM and Enterprise Management. Policies that contain actions only for IAM projects can be used and applied to IAM only. Administrators can check whether an action supports IAM projects or enterprise projects in the action list. For details about the differences between IAM and enterprise management, see [Differences Between IAM and Enterprise Management](#).

DDM supports the following actions in custom policies.

Table 5-2 Instance management

Description	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Creating an instance	POST /v1/{project_id}/instances	ddm:instance:create	√	√
Querying instances	GET /v1/{project_id}/instances?offset={offset}&limit={limit}	ddm:instance:list	√	√
Querying details of an instance	GET /v1/{project_id}/instances/{instance_id}	ddm:instance:get	√	√
Changing an instance name	PUT /v1/{project_id}/instances/{instance_id}/modify-name	ddm:instance:modify	√	√

Description	API	Action	IA M Pr oj ec t (P ro je ct)	Enterpri se Project (Enterp rise Project)
Changing the security group of an instance	PUT /v1/{project_id}/instances/{instance_id}/modify-security-group	ddm:instance:modify	√	√
Deleting an instance	DELETE /v1/{project_id}/instances/{instance_id}?delete_rds_data=true	ddm:instance:delete	√	√
Restarting an instance	POST /v1/{project_id}/instances/{instance_id}/action	ddm:instance:reboot	√	√
Reloading table data	POST /v1/{project_id}/instances/{instance_id}/reload-config	ddm:instance:modify	√	√
Scaling out an instance	POST /v2/{project_id}/instances/{instance_id}/action/enlarge	ddm:instance:extend Node	√	√
Scaling in an instance	POST /v2/{project_id}/instances/{instance_id}/action/reduce	ddm:instance:extend Node	√	√
Modifying the read policy of the associated DB instance	PUT /v2/{project_id}/instances/{instance_id}/action/read-write-strategy	ddm:rds:modifyRead Policy	√	√
Synchronizing data node information	POST /v1/{project_id}/instances/{instance_id}/rds/sync	ddm:rds:synchro	√	√
Querying nodes of an instance	GET /v1/{project_id}/instances/{instance_id}/nodes?offset={offset}&limit={limit}	ddm:instance:list	√	√
Querying details of an instance node	GET /v1/{project_id}/instances/{instance_id}/nodes/{node_id}	ddm:instance:get	√	√

Description	API	Action	IA M Pr oj ec t (P ro je ct)	Enterpri se Project (Enterp rise Project)
Querying engine information	GET /v2/{project_id}/engines?offset={offset}&limit={limit}	ddm:product:list	√	√
Querying node classes available in an AZ	GET /v2/{project_id}/flavors?engine_id={engine_id}&offset={offset}&limit={limit}	ddm:product:list	√	√
Changing the node class of an instance	PUT /v3/{project_id}/instances/{instance_id}/flavor	ddm:instance:resize	√	√
Obtaining the instance group information	GET /v3/{project_id}/instances/{instance_id}/groups?offset={offset}&limit={limit}	ddm:instance:list	√	√
Creating an instance group	POST /v3/{project_id}/instances/{instance_id}/groups	ddm:instance:extend Node	√	√
Deleting an instance group	DELETE /v3/{project_id}/instances/{instance_id}/groups/{group_id}	ddm:instance:extend Node	√	√
Querying engine information (V3)	GET /v3/{project_id}/engines?offset={offset}&limit={limit}	ddm:product:list	√	√
Querying node classes available in an AZ (V3)	GET /v3/{project_id}/flavors?engine_id={engine_id}&offset={offset}&limit={limit}&engine_version={engine_version}&available_zones={available_zones}	ddm:product:list	√	√
Querying parameters of a specified instance	GET /v3/{project_id}/instances/{instance_id}/configurations?offset={offset}&limit={limit}	ddm:parameter:list	√	√

Description	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Modifying parameters of an instance (V3.1)	PUT /v3.1/{project_id}/instances/{instance_id}/configurations	ddm::updateParamGroup	√	√
Scaling out an instance (V3)	POST /v3/{project_id}/instances/{instance_id}/nodes	ddm:instance:extendNode	√	√
Deleting an instance (V3)	DELETE /v3/{project_id}/instances/{instance_id}	ddm:instance:delete	√	√
Enabling or disabling SSL (V3)	POST /v3/{project_id}/instances/{instance_id}/switch-ssl	ddm:instance:modifySsl	√	√
Changing an instance port	PUT /v3/{project_id}/instances/{instance_id}/port	ddm:instance:modify	√	√
Restarting an instance (V3)	POST /v3/{project_id}/instances/{instance_id}/restart	ddm:instance:reboot	√	√
Restarting a node (V3)	POST /v3/{project_id}/instances/{instance_id}/nodes/{node_id}/restart	ddm:instance:reboot	√	√
Binding an EIP (V3)	POST /v3/{project_id}/instances/{instance_id}/eip	ddm:instance:modifyPublicAccess	√	√
Unbinding an EIP (V3)	DELETE /v3/{project_id}/instances/{instance_id}/eip	ddm:instance:modifyPublicAccess	√	√

Description	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Changing the ELB load balancer IP address of an instance (V3)	PUT /v3/{project_id}/instances/{instance_id}/elb/ip	ddm:instance:modify	√	√
Deleting instance nodes (V3)	DELETE /v3/{project_id}/instances/{instance_id}/nodes	ddm:instance:extend Node	√	√
Deleting instance nodes in batches (V3)	POST /v3/{project_id}/instances/{instance_id}/nodes/batch-delete	ddm:instance:extend Node	√	√
Querying details of an instance node (V3)	GET /v3/{project_id}/instances/{instance_id}/nodes/{node_id}	ddm:instance:get	√	√
Buying an instance (V3)	POST /v3/{project_id}/instances	ddm:instance:create	√	√
Obtaining information about the EIP bound to an instance (V3)	GET /v3/{project_id}/instances/{instance_id}/public-ips	ddm:instance:get	√	√
Synchronizing data node information (V3)	POST /v3/{project_id}/instances/{instance_id}/data-nodes/sync	ddm:rds:synchro	√	√
Changing an instance name (V3)	PUT /v3/{project_id}/instances/{instance_id}/name	ddm:instance:modify	√	√

Description	API	Action	IA M Pr oj ec t (P ro je ct)	Enterpri se Project (Enterp rise Project)
Changing the security group of an instance (V3)	PUT /v3/{project_id}/instances/{instance_id}/security-group	ddm:instance:modify	√	√
Reloading table data (V3)	POST /v3/{project_id}/instances/{instance_id}/reload-config	ddm:instance:modify	√	√
Checking RDS connectivity (V3)	POST /v3/{project_id}/instances/{instance_id}/rds/connection	ddm:instance:list	√	√
Setting an instance to read-only	PUT /v3/{project_id}/instances/{instance_id}/readonly-status	ddm:instance:modify	√	√
Querying TMLog information	GET /v3/{project_id}/instances/{instance_id}/tmlogs	ddm:instance:getTmlogs	√	√
Moving a TMLog file	POST /v3/{project_id}/instances/{instance_id}/tmlogs	ddm:instance:modify	√	√
Querying details of an instance (V3)	GET /v3/{project_id}/instances/{instance_id}	ddm:instance:get	√	√
Querying instances (V3)	GET /v3/{project_id}/instances	ddm:instance:list	√	√
Creating an access control group (V3)	POST /v3/{project_id}/instances/{instance_id}/ip-group	ddm:instance:modify	√	√
Querying an access control group (V3)	GET /v3/{project_id}/instances/{instance_id}/ip-group	ddm:instance:get	√	√

Table 5-3 Schema management

Description	API	Action	IA M Pr oj ec t (P ro j ec t)	Enterpr ise Project (Enterp rise Project)
Creating a schema	POST /v1/{project_id}/instances/{instance_id}/databases	ddm:datab ase:create	√	√
Querying schemas	GET /v1/{project_id}/instances/{instance_id}/databases?offset={offset}&limit={limit}	ddm:datab ase:list	√	√
Querying details of a schema	GET /v1/{project_id}/instances/{instance_id}/databases/{ddm_dbname}	ddm:datab ase:get	√	√
Deleting a schema	DELETE /v1/{project_id}/instances/{instance_id}/databases/{ddm_dbname}?delete_rds_data=true	ddm:datab ase:delete	√	√
Querying DB instances available for creating a schema	GET /v1/{project_id}/instances/{instance_id}/rds?offset={offset}&limit={limit}	ddm:rds:lis t	√	√
Creating a schema (V3)	POST /v3/{project_id}/instances/{instance_id}/databases	ddm:datab ase:create	√	√
Deleting a schema (V3)	DELETE /v3/{project_id}/instances/{instance_id}/databases/{database_name}	ddm:datab ase:delete	√	√
Querying details about a schema (V3)	GET /v3/{project_id}/instances/{instance_id}/databases/{database_name}	ddm:datab ase:get	√	√
Exporting schema metadata (V3)	GET /v3/{project_id}/instances/{instance_id}/schema-metadata	ddm:datab ase:get	√	√
Importing schema metadata (V3)	POST /v3/{project_id}/instances/{instance_id}/schema-metadata	ddm:datab ase:create	√	√

Description	API	Action	IA M Pr oj ec t (P ro j ec t)	Enterpr ise Project (Enterpr ise Project)
Querying data nodes available for creating a schema (V3)	GET /v3/{project_id}/instances/{instance_id}/available-data-nodes	ddm:rds:lis t	√	√
Querying data nodes available for shard configuration (V3)	GET /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/available-data-nodes	ddm:rds:lis t	√	√
Pre-checking shard configuration (V3)	POST /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/precheck	ddm:datab ase:migrat e	√	√
Querying the asynchronous pre-check result of shard configuration (V3)	GET /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/precheck/{job_id}	ddm:insta nce:list	√	√
Configuring shards (V3)	POST /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration	ddm:datab ase:migrat e	√	√
Querying details about a shard configuration task (V3)	GET /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/jobs/{job_id}	ddm:task:li st	√	√
Canceling shard configuration (V3)	PUT /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/jobs/{job_id}/cancel	ddm:datab ase:migrat e	√	√

Description	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Rolling back shard configuration (V3)	PUT /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/jobs/{job_id}/rollback	ddm:database:migrateRollback	√	√
Clearing shard configuration data (V3)	PUT /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/jobs/{job_id}/clean	ddm:database:migrate	√	√
Retrying shard configuration (V3)	PUT /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/jobs/{job_id}/retry	ddm:database:migrate	√	√
Changing a route switching policy (V3)	PUT /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/jobs/{job_id}/route-switch-strategy	ddm:database:migrate	√	√
Switching a route (V3)	PUT /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/jobs/{job_id}/route-switch	ddm:database:migrate	√	√
Unbinding a schema (V3)	POST /v3/{project_id}/instances/{instance_id}/databases/{logic_db_name}/unbind	ddm:database:unbind	√	√

Table 5-4 Account management

Description	API	Action	IA M Pr o j e c t (P r o j e c t)	Enterpr ise Project (Enterp rise 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	√	√
Resetting the password of a DDM account	POST /v2/{project_id}/instances/{instance_id}/users/{username}/password	ddm:user:modify	√	√
Managing an administrator password (V3)	PUT /v3/{project_id}/instances/{instance_id}/admin-user	ddm:user:modify	√	√
Validating password strength (V3)	POST /v3/{project_id}/weak-password-verification	ddm:user:list	√	√
Creating an account (V3)	POST /v3/{project_id}/instances/{instance_id}/users	ddm:user:create	√	√
Querying accounts (V3)	GET /v3/{project_id}/instances/{instance_id}/users	ddm:user:list	√	√
Modifying an account (V3)	PUT /v3/{project_id}/instances/{instance_id}/users/{username}	ddm:user:modify	√	√
Deleting an account (V3)	DELETE /v3/{project_id}/instances/{instance_id}/users/{username}	ddm:user:delete	√	√

Description	API	Action	IA M Pr oj ec t (P ro j ec t)	Enterpr ise Project (Enterp rise Project)
Resetting the password of an account (V3)	POST /v3/{project_id}/instances/{instance_id}/users/{username}/password	ddm:user:modify	√	√

Table 5-5 Task management

Description	API	Action	IA M Pr oj ec t (Pr oj ec t)	Enterpr ise Project (Enterp rise Project)
Obtaining task information	GET /v1/{project_id}/jobs/{job_id}	ddm:task:list	√	√
Obtaining information about a task with a specified ID	GET /v3/{project_id}/jobs/{job_id}	ddm:task:get	√	√
Querying tasks (V3)	GET /v3/{project_id}/jobs	ddm:task:list	√	√

Table 5-6 Monitoring

Description	API	Action	IA M Pr o j e c t (P r o j e c t)	Enterpr ise Project (Enterp rise Project)
Monitoring slow query logs	GET /v2/{project_id}/instances/ {instance_id}/slowlog? curPage={curPage}&perPage={perP age}&startDate={startDate}&endDa te={endDate}	ddm:insta nce:listSlo wSqlInfo	√	√

Table 5-7 Session management

Description	API	Action	IA M Pr o j e c t (P r o j e c t)	Enterpr ise Project (Enterp rise Project)
Querying logical sessions (V3)	GET /v3/{project_id}/instances/ {instance_id}/logical-processes? offset={offset}&limit={limit}	ddm:insta nce:queryP rocessList	√	√
Killing logical sessions (V3)	DELETE /v3/{project_id}/instances/ {instance_id}/logical-processes	ddm:insta nce:killPro cessList	√	√
Querying physical sessions (V3)	GET /v3/{project_id}/instances/ {instance_id}/physical-processes? offset={offset}&limit={limit}	ddm:insta nce:queryP rocessList	√	√
Killing physical sessions (V3)	DELETE /v3/{project_id}/instances/ {instance_id}/physical-processes	ddm:insta nce:killPro cessList	√	√

Description	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Querying audit logs of killing sessions (V3)	GET /v3/{project_id}/instances/{instance_id}/processes-audit-log?offset={offset}&limit={limit}&start_time={start_time}&end_time={end_time}	ddm:instance:queryProcessList	√	√

Table 5-8 Version management

Description	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Querying the DDM kernel versions that can be changed (V3)	GET /v3/{project_id}/instances/{instance_id}/database-version/available-versions	ddm:instance:get	√	√
Changing a DDM kernel version (V3)	POST /v3/{project_id}/instances/{instance_id}/database-version/change-version	ddm:instance:changeVersion	√	√
Rolling back a DDM kernel version (V3)	POST /v3/{project_id}/instances/{instance_id}/database-version/rollback-version	ddm:instance:changeVersion	√	√
Reminding users of risks for a DDM kernel version (V3)	GET /v3/{project_id}/instances/{instance_id}/show-risk-info	ddm:instance:get	√	√

Table 5-9 Backup management

Description	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Obtaining backups	GET /v3/{project_id}/backups	ddm:backup:list	√	√
Deleting a backup	DELETE /v3/{project_id}/backups/{backup_id}	ddm:backup:delete	√	√
Querying backup details (V3)	GET /v3/{project_id}/instances/{instance_id}/backups/{backup_id}	ddm:backup:get	√	√
Querying data nodes associated with an instance at a restoration time point (V3)	GET /v3/{project_id}/instances/{instance_id}/backups/related-dn	ddm:backup:get	√	√
Querying the restoration time range (V3)	GET /v3/{project_id}/instances/{instance_id}/backups/restorable-time-interval	ddm:backup:get	√	√
Querying data nodes available to restore data to a point in time (V3)	GET /v3/{project_id}/instances/{instance_id}/backups/restorable-data-node	ddm:rds:list	√	√
Querying instances that can be used for restoration (V3)	GET /v3/{project_id}/instances/{instance_id}/backups/restorable-instances	ddm:instance:list	√	√
Restoring metadata (V3)	POST /v3/{project_id}/instances/{instance_id}/backups/metadata-recovery	ddm:backup:restore	√	√

Description	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Restoring data to a new instance (V3)	POST /v3/{project_id}/instances/{instance_id}/backups/recovery	ddm:backup:restore	√	√

Table 5-10 Parameter management

Description	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Obtaining parameter templates	GET /v3/{project_id}/configurations	ddm:param:list	√	√
Obtaining parameters of a specified parameter template	GET /v3/{project_id}/configurations/{config_id}	ddm:param:list	√	√
Creating a parameter template (V3)	POST /v3/{project_id}/configurations	ddm:param:create	√	√
Deleting a parameter template (V3)	DELETE /v3/{project_id}/configurations/{config_id}	ddm:param:delete	√	√
Querying parameter template application records (V3)	GET /v3/{project_id}/configurations/{config_id}/apply-histories	ddm:param:list	√	√

Description	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Replicating a parameter template (V3)	POST /v3/{project_id}/configurations/{config_id}/copy	ddm:param:create	√	√
Updating a parameter template (V3)	PUT /v3/{project_id}/configurations/{config_id}	ddm:param:update	√	√
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 templates (V3)	PUT /v3/{project_id}/configurations/diff	ddm:param:list	√	√

5.3 Identity Policy-based Authorization

IAM provides system-defined identity policies to define common actions supported by cloud services. You can also create custom identity policies using the actions supported by cloud services for more refined access control.

In addition to IAM, the [Organizations](#) service also provides [service control policies \(SCPs\)](#) to set access control policies.

SCPs do not actually grant any permissions to an entity. They only set the permissions boundary for the entity. When SCPs are attached to an organizational unit (OU) or a member account, the SCPs do not directly grant permissions to that OU or member account. Instead, the SCPs only determine what permissions are available for that member account or those member accounts under that OU. The granted permissions can be applied only if they are allowed by the SCPs.

To learn more about how IAM is different from Organizations for access control, see [What Are the Differences in Access Control Between IAM and Organizations?](#)

This section describes the elements used by IAM custom identity policies and Organizations SCPs. The elements include actions, resources, and conditions.

- For details about how to use these elements to edit an IAM custom identity policy, see [Creating a Custom Identity Policy](#).
- For details about how to use these elements to edit a custom SCP, see [Creating an SCP](#).

Actions

Actions are specific operations that are allowed or denied in an identity policy.

- If this column includes a resource type, you must specify the URN in the Resource element of your identity policy statements.
- The **Resource Type** column indicates whether the action supports resource-level permissions.
 - You can use a wildcard (*) to indicate all resource types. If this column is empty (-), the action does not support resource-level permissions and you must specify all resources ("*") in your identity policy statements.
 - If this column includes a resource type, you must specify the URN in the Resource element of your identity policy statements.
 - Required resources are marked with asterisks (*) in the table. If you specify a resource in a statement using this action, then it must be of this type.

For details about the resource types defined by DDM, see [Resource Type](#).

- **Condition Key** contains keys that you can specify in the Condition element of an identity policy statement.
 - If the **Resource Type** column has values for an action, the condition key takes effect only for the listed resource types.
 - If the **Resource Type** column is empty (-) for an action, the condition key takes effect for all resources that action supports.
 - If the **Condition Key** column is empty (-) for an action, the action does not support any condition keys.

For details about the condition keys defined by DDM, see [Conditions](#).

- **Alias** lists the policy actions that are configured in identity policies. With these actions, you can use APIs for policy-based authorization.

The following table lists the actions that you can define in identity policy statements for DDM.

Table 5-11 Actions supported by DDM

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
ddm::createParamGroup	Grants permission to create a parameter template.	write	-	-	ddm:param:create
ddm::deleteParamGroup	Grants permission to delete a parameter template.	write	-	-	ddm:param:delete
ddm::updateParamGroup	Grants permission to update a parameter template.	write	-	-	ddm:param:update
ddm::applyParamGroup	Grants permission to apply a parameter template.	write	-	-	ddm:param:apply
ddm::listParamGroup	Grants permission to query parameter templates.	list	-	-	ddm:param:list
ddm::copyParamGroup	Grants permission to replicate a parameter template.	write	-	-	ddm:param:create
ddm::getParamGroup	Grants permission to query a parameter template.	read	-	-	ddm:param:list
ddm:instance:deleteBackup	Grants permission to delete a backup.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:backup:delete

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
ddm:instance:restore	Grants permission to restore data from a backup.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:backup:restore
ddm:instance:getBackup	Grants permission to obtain backup information.	read	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:backup:get
ddm:instance:listBackup	Grants permission to query the backup list of an instance.	list	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:backup:list
ddm::listBackup	Grants permission to query the backup list of a project.	list	-	-	ddm:backup:list
ddm:instance:createUser	Grants permission to create a DDM account.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:user:create
ddm:instance:updateUser	Grants permission to modify DDM account information.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:user:modify
ddm:instance:deleteUser	Grants permission to delete a DDM account.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:user:delete

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
ddm:instance:listUser	Grants permission to query the DDM account list.	list	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:user:list
ddm::validateWeakPassword	Grants permission to query DDM weak password verification.	read	-	-	ddm:user:list
ddm:database:configBlacklist	Grants permission to configure an SQL blacklist.	write	database	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:blacklist:config
ddm:database:getBlacklist	Grants permission to query an SQL blacklist.	read	database	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:blacklist:get
ddm:instance:syncDataNode	Grants permission to synchronize data node information.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:reads:synchronize
ddm:instance:updateDataNodeReadWritePolicy	Grants permission to update the read/write weight.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:reads:modifyReadPolicy
ddm:instance:listDataNode	Grants permission to query the data node list.	list	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:reads:list

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
ddm:instance:checkDataNodeConnection	Grants permission to check the connectivity of data nodes.	read	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:list
ddm::listTask	Grants permission to query tasks.	list	-	-	ddm:task:list
ddm::getTask	Grants permission to query details about a task.	read	-	-	ddm:task:get
ddm::listTags	Grants permission to query all tags in a project.	list	-	-	ddm:tag:list
ddm::listTagsForResource	Grants permission to query the instance tag list.	list	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:tag:list
ddm::updateTagForResource	Grants permission to modify tags.	tagging	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:tag:modify
ddm::tagResource	Grants permission to add tags.	tagging	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key> g:RequestTag/<tag-key> g:TagKeys	ddm:tag:modify

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
ddm::untagResource	Grants permission to delete tags.	tagging	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:tag:modify
ddm:instance:listGroup	Grants permission to query the instance group list.	list	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:list
ddm:database:listTable	Grants permission to query logical tables.	list	database	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:table:list
ddm:database:getTable	Grants permission to query logical table details.	read	database	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:table:list
ddm:database:create	Grants permission to create a schema.	write	database	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:database:delete	Grants permission to delete a schema.	write	database	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:database:list	Grants permission to query schemas.	list	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:database:get	Grants permission to query schema details.	read	database	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
ddm:database:migrate	Grants permission to configure shards of a schema.	write	database	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:database:migrateRollback	Grants permission to roll back shard configuration of a schema.	write	database	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:database:dumpMetadata	Grants permission to export schema metadata.	write	database	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:database:get
ddm:database:loadMetadata	Grants permission to import schema metadata.	write	database	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:database:create
ddm:instance:enlargeNode	Grants permission to add nodes.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:extendNode
ddm:instance:reduceNode	Grants permission to reduce nodes.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:extendNode
ddm:instance:getNode	Grants permission to query node details.	read	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:get
ddm:instance:listNodes	Grants permission to query the node list.	list	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:list

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
ddm:instance:updateElbIp	Grants permission to change the load balancer IP address of an instance.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:modify
ddm:instance:create	Grants permission to create a DDM instance.	write	instance	g:RequestTag/<tag-key> g:TagKeys g:EnterpriseProjectId	-
ddm:instance:reboot	Grants permission to restart a DDM instance.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:instance:delete	Grants permission to delete a DDM instance.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:instance:resize	Grants permission to change the node class.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:instance:updateName	Grants permission to change the name of a DDM instance.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:modify
ddm:instance:updateIpGroup	Grants permission to modify DDM access control.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:modify

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
ddm:instance:reload	Grants permission to reload DDM instance metadata.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:modify
ddm:instance:updateSecurityGroup	Grants permission to update the security group of a DDM instance.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:modify
ddm:instance:updatePort	Grants permission to update the port of a DDM instance.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:modify
ddm::listProduct	Grants permission to query the product list.	list	-	-	ddm:product:list
ddm:instance:updateRwStrategy	Grants permission to enable or disable read/write splitting.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:modify
ddm:instance:getRwStrategy	Grants permission to check whether read/write splitting is enabled.	read	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:list

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
ddm:instance:listRwInfo	Grants permission to query reads and writes of a DDM instance in a specified time range.	read	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:instance:listSlowSqlInfo	Grants permission to view slow SQL monitoring information.	list	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:instance:list	Grants permission to query the DDM instance list.	list	-	g:RequestTag/<tag-key> g:TagKeys g:EnterpriseProjectId	-
ddm:instance:get	Grants permission to query details about a DDM instance.	read	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:instance:changeVersion	Grants permission to upgrade or downgrade a DDM instance.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:instance:queryProcessList	Grants permission to query the session list.	list	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
ddm:instance:killProcessList	Grants permission to kill sessions.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:instance:modifySsl	Grants permission to enable or disable SSL for the DDM kernel.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:instance:getSslCertDownloadAddress	Grants permission to obtain the address for downloading the SSL certificate of a DDM instance.	read	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance: list
ddm:instance:modifyPublicAccess	Grants permission to bind or unbind an EIP to or from a DDM instance.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:database:listGsi	Grants permission to query the GSI list.	list	database	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:database:createGsi	Grants permission to create a GSI.	write	database	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-
ddm:database:rebuildGsi	Grants permission to recreate a GSI.	write	database	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
ddm:instance:createSqlLimit	Grants permission to create auto throttling rules of an instance.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:modify
ddm:instance:deleteSqlLimit	Grants permission to delete auto throttling rules of an instance.	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:modify
ddm:instance:querySqlLimit	Grants permission to query auto throttling rules of an instance.	list	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	ddm:instance:query

Each API of DDM usually supports one or more actions. [Table 5-12](#) lists the supported actions and dependencies.

Table 5-12 Actions and dependencies supported by DDM APIs

API	Action	Dependency
POST /v1/{project_id}/instances	ddm:instance:create	-
GET /v1/{project_id}/instances?offset={offset}&limit={limit}	ddm:instance:list	-
GET /v1/{project_id}/instances/{instance_id}	ddm:instance:get	-
PUT /v1/{project_id}/instances/{instance_id}/modify-name	ddm:instance:updateName	-
PUT /v1/{project_id}/instances/{instance_id}/modify-security-group	ddm:instance:updateSecurityGroup	-
DELETE /v1/{project_id}/instances/{instance_id}?delete_rds_data=true	ddm:instance:delete	-

API	Action	Dependency
POST /v1/{project_id}/instances/{instance_id}/action	ddm:instance:reboot	-
POST /v1/{project_id}/instances/{instance_id}/reload-config	ddm:instance:reload	-
POST /v2/{project_id}/instances/{instance_id}/action/enlarge	ddm:instance:enlargeNode	-
POST /v2/{project_id}/instances/{instance_id}/action/reduce	ddm:instance:reduceNode	-
PUT /v2/{project_id}/instances/{instance_id}/action/read-write-strategy	ddm:instance:updateDataNodeReadWritePolicy	-
POST /v1/{project_id}/instances/{instance_id}/rds/sync	ddm:instance:syncDataNode	-
GET /v1/{project_id}/instances/{instance_id}/nodes?offset={offset}&limit={limit}	ddm:instance:listNodes	-
GET /v1/{project_id}/instances/{instance_id}/nodes/{node_id}	ddm:instance:getNode	-
GET /v2/{project_id}/engines?offset={offset}&limit={limit}	ddm::listProduct	-
GET /v2/{project_id}/flavors?engine_id={engine_id}&offset={offset}&limit={limit}	ddm::listProduct	-
PUT /v3/{project_id}/instances/{instance_id}/flavor	ddm:instance:resize	-
GET /v3/{project_id}/instances/{instance_id}/groups?offset={offset}&limit={limit}	ddm:instance:listGroup	-
POST /v3/{project_id}/instances/{instance_id}/groups	ddm:instance:enlargeNode	-
DELETE /v3/{project_id}/instances/{instance_id}/groups/{group_id}	ddm:instance:reduceNode	-
GET /v3/{project_id}/engines?offset={offset}&limit={limit}	ddm::listProduct	-
GET /v3/{project_id}/flavors?engine_id={engine_id}&offset={offset}&limit={limit}&engine_version={engine_version}&available_zones={available_zones}	ddm::listProduct	-

API	Action	Dependency
GET /v3/{project_id}/instances/{instance_id}/configurations?offset={offset}&limit={limit}	ddm::getParamGroup	-
PUT /v3.1/{project_id}/instances/{instance_id}/configurations	ddm:param:update	-
POST /v3/{project_id}/instances/{instance_id}/nodes	ddm:instance:enlargeNode	-
DELETE /v3/{project_id}/instances/{instance_id}	ddm:instance:delete	-
POST /v3/{project_id}/instances/{instance_id}/switch-ssl	ddm:instance:modifySsl	-
PUT /v3/{project_id}/instances/{instance_id}/port	ddm:instance:updatePort	-
POST /v3/{project_id}/instances/{instance_id}/restart	ddm:instance:reboot	-
POST /v3/{project_id}/instances/{instance_id}/nodes/{node_id}/restart	ddm:instance:reboot	-
POST /v3/{project_id}/instances/{instance_id}/eip	ddm:instance:modifyPublicAccess	-
DELETE /v3/{project_id}/instances/{instance_id}/eip	ddm:instance:modifyPublicAccess	-
PUT /v3/{project_id}/instances/{instance_id}/elb/ip	ddm:instance:updateElbIp	-
DELETE /v3/{project_id}/instances/{instance_id}/nodes	ddm:instance:reduceNode	-
POST /v3/{project_id}/instances/{instance_id}/nodes/batch-delete	ddm:instance:reduceNode	-
GET /v3/{project_id}/instances/{instance_id}/nodes/{node_id}	ddm:instance:getNode	-
POST /v3/{project_id}/instances	ddm:instance:create	-
GET /v3/{project_id}/instances/{instance_id}/public-ips	ddm:instance:get	-
POST /v3/{project_id}/instances/{instance_id}/data-nodes/sync	ddm:instance:syncDataNode	-
PUT /v3/{project_id}/instances/{instance_id}/name	ddm:instance:updateName	-

API	Action	Dependency
PUT /v3/{project_id}/instances/{instance_id}/security-group	ddm:instance:updateSecurityGroup	-
POST /v3/{project_id}/instances/{instance_id}/reload-config	ddm:instance:reload	-
POST /v3/{project_id}/instances/{instance_id}/rds/connection	ddm:instance:checkDataNodeConnection	-
POST /v1/{project_id}/instances/{instance_id}/databases	ddm:database:create	-
GET /v1/{project_id}/instances/{instance_id}/databases?offset={offset}&limit={limit}	ddm:database:list	-
GET /v1/{project_id}/instances/{instance_id}/databases/{ddm_dbname}	ddm:database:get	-
DELETE /v1/{project_id}/instances/{instance_id}/databases/{ddm_dbname}?delete_rds_data=true	ddm:database:delete	-
GET /v1/{project_id}/instances/{instance_id}/rds?offset={offset}&limit={limit}	ddm:instance:listDataNode	-
POST /v3/{project_id}/instances/{instance_id}/databases	ddm:database:create	-
DELETE /v3/{project_id}/instances/{instance_id}/databases/{database_name}	ddm:database:delete	-
GET /v3/{project_id}/instances/{instance_id}/databases/{database_name}	ddm:database:get	-
GET /v3/{project_id}/instances/{instance_id}/schema-metadata	ddm:database:dumpMetadata	-
POST /v3/{project_id}/instances/{instance_id}/schema-metadata	ddm:database:loadMetadata	-
GET /v3/{project_id}/instances/{instance_id}/available-data-nodes	ddm:instance:listDataNode	-
GET /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/available-data-nodes	ddm:instance:listDataNode	-
POST /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/precheck	ddm:database:migrate	-

API	Action	Dependency
GET /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/precheck/{job_id}	ddm:instance:list	-
POST /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration	ddm:database:migrate	-
GET /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/jobs/{job_id}	ddm::listTask	-
PUT /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/jobs/{job_id}/cancel	ddm:database:migrate	-
PUT /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/jobs/{job_id}/rollback	ddm:database:migrateRollback	-
PUT /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/jobs/{job_id}/clean	ddm:database:migrate	-
PUT /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/jobs/{job_id}/retry	ddm:database:migrate	-
PUT /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/jobs/{job_id}/route-switch-strategy	ddm:database:migrate	-
PUT /v3/{project_id}/instances/{instance_id}/databases/{db_name}/migration/jobs/{job_id}/route-switch	ddm:database:migrate	-
POST /v1/{project_id}/instances/{instance_id}/users	ddm:instance:createUser	-
GET /v1/{project_id}/instances/{instance_id}/users?offset={offset}&limit={limit}	ddm:instance:listUser	-
PUT /v1/{project_id}/instances/{instance_id}/users/{username}	ddm:instance:updateUser	-
DELETE /v1/{project_id}/instances/{instance_id}/users/{username}	ddm:instance:deleteUser	-
POST /v2/{project_id}/instances/{instance_id}/users/{username}/password	ddm:instance:updateUser	-

API	Action	Dependency
PUT /v3/{project_id}/instances/{instance_id}/admin-user	ddm:instance:updateUser	-
POST /v3/{project_id}/weak-password-verification	ddm::validateWeakPassword	-
POST /v3/{project_id}/instances/{instance_id}/users	ddm:instance:createUser	-
GET /v3/{project_id}/instances/{instance_id}/users	ddm:instance:listUser	-
PUT /v3/{project_id}/instances/{instance_id}/users/{username}	ddm:instance:updateUser	-
DELETE /v3/{project_id}/instances/{instance_id}/users/{username}	ddm:instance:deleteUser	-
POST /v3/{project_id}/instances/{instance_id}/users/{username}/password	ddm:instance:updateUser	-
GET /v3/{project_id}/jobs/{job_id}	ddm::getTask	-
GET /v3/{project_id}/jobs	ddm::listTask	-
GET /v2/{project_id}/instances/{instance_id}/slowlog?curPage={curPage}&perPage={perPage}&startDate={startDate}&endDate={endDate}	ddm:instance:listSlowSqlInfo	-
GET /v3/{project_id}/instances/{instance_id}/logical-processes?offset={offset}&limit={limit}	ddm:instance:queryProcessList	-
DELETE /v3/{project_id}/instances/{instance_id}/logical-processes	ddm:instance:killProcessList	-
GET /v3/{project_id}/instances/{instance_id}/physical-processes?offset={offset}&limit={limit}	ddm:instance:queryProcessList	-
DELETE /v3/{project_id}/instances/{instance_id}/physical-processes	ddm:instance:killProcessList	-
GET /v3/{project_id}/instances/{instance_id}/processes-audit-log?offset={offset}&limit={limit}&start_time={start_time}&end_time={end_time}	ddm:instance:queryProcessList	-
GET /v3/{project_id}/instances/{instance_id}/database-version/available-versions	ddm:instance:get	-

API	Action	Dependency
POST /v3/{project_id}/instances/{instance_id}/database-version/change-version	ddm:instance:changeVersion	-
POST /v3/{project_id}/instances/{instance_id}/database-version/rollback-version	ddm:instance:changeVersion	-
GET /v3/{project_id}/instances/{instance_id}/show-risk-info	ddm:instance:get	-
GET /v3/{project_id}/backups	ddm::listBackup	-
DELETE /v3/{project_id}/backups/{backup_id}	ddm:instance:deleteBackup	-
GET /v3/{project_id}/instances/{instance_id}/backups/{backup_id}	ddm:instance:getBackup	-
GET /v3/{project_id}/instances/{instance_id}/backups/related-dn	ddm:instance:getBackup	-
GET /v3/{project_id}/instances/{instance_id}/backups/restorable-time-interval	ddm:instance:getBackup	-
GET /v3/{project_id}/instances/{instance_id}/backups/restorable-data-node	ddm:instance:listDataNode	-
GET /v3/{project_id}/instances/{instance_id}/backups/restorable-instances	ddm:instance:list	-
POST /v3/{project_id}/instances/{instance_id}/backups/metadata-recovery	ddm:instance:restore	-
POST /v3/{project_id}/instances/{instance_id}/backups/recovery	ddm:instance:restore	-
GET /v3/{project_id}/configurations	ddm::listParamGroup	-
GET /v3/{project_id}/configurations/{config_id}	ddm::getParamGroup	-
POST /v3/{project_id}/configurations	ddm::createParamGroup	-
DELETE /v3/{project_id}/configurations/{config_id}	ddm::deleteParamGroup	-
GET /v3/{project_id}/configurations/{config_id}/apply-histories	ddm::listParamGroup	-

API	Action	Dependency
POST /v3/{project_id}/configurations/{config_id}/copy	ddm::copyParamGroup	-
PUT /v3/{project_id}/configurations/{config_id}	ddm::updateParamGroup	-
GET /v3/{project_id}/configurations/{config_id}/query-instances	ddm::instance:list	-
PUT /v3/{project_id}/configurations/diff	ddm::listParamGroup	-

Resource Type

A resource type indicates the resources that an identity policy applies to. If you specify a resource type for any action in [Table 5-13](#), the resource URN must be specified in the identity policy statements using that action, and the identity policy applies only to resources of this type. If no resource type is specified, the Resource element is marked with an asterisk (*) and the identity policy is applied to all resources. You can also set condition keys in an identity policy to define resource types.

The following table lists the resource types that you can define in identity policy statements for DDM.

Table 5-13 Resource types supported by DDM

Resource Type	URN
instance	ddm:<region>:<account-id>:instance:<instance-id>
database	ddm:<region>:<account-id>:database:<instance-id>/<database-name>

Conditions

A Condition element lets you specify conditions for when an identity policy is in effect. It contains condition keys and operators.

- The condition key that you specify can be a global condition key or a service-specific condition key.
 - Global condition keys (with the **g:** prefix) apply to all actions. Cloud services do not need to provide user identity information. Instead, the system automatically obtains such information and authenticates users.
 - The number of values associated with a condition key in the request context of an API call makes the condition key single-valued or multivalued. Single-valued condition keys have at most one value in the

request context of an API call. Multivalued condition keys can have multiple values in the request context of an API call. For example, a request can originate from at most one VPC endpoint, so `g:SourceVpce` is a single-valued condition key. You can tag resources and include multiple tag key-value pairs in a request, so `g:TagKeys` is a multivalued condition key.

- A condition operator, condition key, and a condition value together constitute a complete condition statement. An identity policy can be applied only when its request conditions are met.

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: - The request could not be parsed by the server due to incorrect syntax. - Request parameters are incorrect.
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	ContentType contained in the request header is neither application nor json .
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 Running 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 physical database.	To delete the schema, check whether there are RDS instances associated with it. If the associated RDS DB instances have been deleted, click Synchronize DB Instance Data on the Basic Information 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 Scaling out or Scaling failed 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.300 302	Failed to delete the account.	Ensure that the DDM instance is running properly and try again.
400	DBS.300 305	Invalid DDM account name.	Ensure that the account name is valid and try again.
400	DBS.300 306	The account password is invalid.	Ensure that the account name and password in the request body are correct and try again.
400	DBS.300 307	The account description is invalid.	Ensure that the maximum length of account description does not exceed 256 characters and try again.
400	DBS.300 309	The account basic permissions are invalid.	Ensure that basic permissions configured for the account are correct and try again.
400	DBS.300 310	The account extended permissions are invalid.	Ensure that extended permissions configured for the account are correct and try again.
400	DBS.300 311	The account already exists.	Ensure that the account name is unique and try again.
400	DBS.300 312	Failed to query the account.	Ensure that the DDM instance is running properly and try again.
400	DBS.300 313	Failed to configure the SQL blacklist.	Ensure that the schema exists and is in the Running state, and try again.
400	DBS.300 314	Failed to modify the read/write policy.	Ensure that the DDM instance is running properly and try again.
400	DBS.300 315	Invalid read/write relative weight.	Ensure that the weight is greater than or equal to 0 and less than 100.
400	DBS.300 316	Failed to query the read/write policy.	Ensure that the DDM instance is running properly and try again.
400	DBS.300 322	Failed to save instance metadata.	Provide environment information, instance ID, involved operations, and symptom description and contact technical support.
400	DBS.300 323	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 Parameters , search for time_zone in the upper right text box to check its value. Then, perform these operations on the target RDS instance, and check whether its time_zone 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	sql_mode 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 Parameters , search for sql_mode in the upper right text box to check its value. Then, perform these operations on the target RDS instance, and check whether its sql_mode 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 SHOW DATABASES . 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 Initialization .	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.300 348	Failed to obtain subtasks during data verification.	Contact technical support.
400	DBS.300 349	Failed to update the schema status during route switching.	Contact technical support.
400	DBS.300 350	The required data is not found.	Provide environment information, involved operations, and symptom description and contact technical support.
400	DBS.300 351	Failed to change statuses of scale-out subtasks to Error .	Contact technical support.
400	DBS.300 352	Failed to change statuses of scale-out subtasks to Stop .	Provide environment information, involved operations, and symptom description and contact technical support.
400	DBS.300 353	Data verification failed.	Provide environment information, involved operations, and symptom description and contact technical support.
400	DBS.300 354	Failed to change statuses of scale-out subtasks to Complete .	Provide environment information, involved operations, and symptom description and contact technical support.
400	DBS.300 355	Schema creation failed.	Provide environment information, involved operations, and symptom description and contact technical support.
400	DBS.300 356	Failed to connect to the RDS DB instance.	Check whether the RDS service is running properly.
400	DBS.300 357	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 Clear in the Operation 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: 1. Log in to the management console. 2. Hover on the left menu to display Service List and choose Database > Relational Database Service. 3. On the Instance Management page, locate the required DB instance and click its name. 4. On the Basic Information page, locate the Storage Space part. 5. Click Scale and try again after the scaling is complete.
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 lower_case_table_names of the DB instance is invalid.	Perform the following operations to scale up disk space of the DB instance: 1. Log in to the management console. 2. Hover on the left menu to display Service List and choose Database > Relational Database Service. 3. On the Instance Management page, locate the required DB instance and click its name. 4. Choose Parameters in the left navigation pane, search for lower_case_table_names and verify that its value is 1 and retry.
400	DBS.300369	Failed to configure access control. Contact technical support.	View DBS-ddm-instancemanager logs and DBS-resource-manager logs and modify as follows: • If error code APIG.xxxx is returned, indicating that you have no permission to access the API, contact ELB O&M engineers to grant the user the required permission. View the URI of the API in the resource management INFO log. • If an error code containing ELB.xxxx is displayed, contact ELB O&M engineers to locate the fault.
400	DBS.300370	Elastic load balancing is not enabled for the current DDM instance. To enable it, contact technical support.	If needed, go to DBS Operation System to enable elastic load balancing for the required DDM instance.
400	DBS.300371	Creating a test DDM instance is not supported. To enable this function, contact technical support.	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. View the DDM instance management logs to obtain the whitelist name.

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 {param} .	Change the value of {param} and try again.
400	DBS.300 376	The time zone is invalid.	Enter a correct time zone.
400	DBS.300 377	Invalid time range.	1. Ensure that the format of the time range for route switching is HH:mm:ss. 2. Ensure that the route switching start time and end time are the same day and the interval is longer than 1 hour. 3. Retry after completing the above operations.
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 information_schema , mysql , performance_schema , and sys .
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.300 408	Failed to check the RDS connectivity.	1. Upgrade Agent to 2.6.1 or later. 2. Provide environment information, involved operations, and symptom description. Contact O&M engineers to check whether the Agent is faulty.
400	DBS.300 541	Insufficient permissions.	Use an account with the required permissions.
400	DBS.300 626	After an instance is scaled in, there must be at least one normal node in the instance. Check the number of nodes to be removed.	Check the number of nodes to be removed.
400	DBS.200 057	Invalid parameter template ID.	Enter a correct parameter template ID and try again later.
400	DBS.280 305	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.

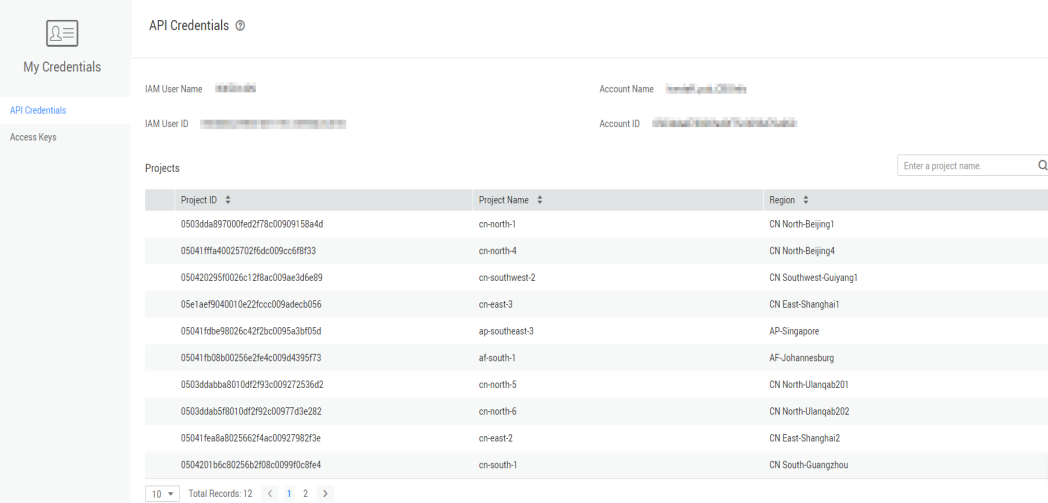
```
{
  "projects": [
    {
      "domain_id": "65382450e8f64ac0870cd180d14e684b",
      "is_domain": false,
      "parent_id": "65382450e8f64ac0870cd180d14e684b",
      "name": "project_name",
      "description": "",
      "links": {
        "next": null,
        "previous": null,
        "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"
      },
      "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_I NSTANCE	The version is being upgraded.
ROLL_BACK_DB_VERS ION	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.