

Data Replication Service

API Reference

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1 Before You Start

1.1 Overview

Welcome to Data Replication Service (DRS). DRS is a stable, secure, and efficient cloud service for online database migration and real-time database synchronization. You can create a migration task to migrate data from a source database to a destination database.

This document describes how to use application programming interfaces (APIs) to perform operations in DRS, such as creating, querying, obtaining, and deleting resources. For details about all supported operations, see [API Overview](#).

Before calling DRS APIs, ensure that you have understood the concepts related to DRS. For more information, see [Service Overview](#).

1.2 API Calling

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

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](#).

[Table 1-1](#) and [Table 1-2](#) list the regions supported by DRS APIs. Select a desired one based on the service requirements.

Table 1-1 Regions supported by DRS v5 APIs

Region Name	Region	Endpoint	Protocol
CN South-Shenzhen	cn-south-2	drs.cn-south-2.myhuaweicloud.com	HTTPS

Table 1-2 Regions supported by DRS v3 APIs

Region Name	Region	Endpoint	Protocol
CN North-Beijing1	cn-north-1	drs.cn-north-1.myhuaweicloud.com	HTTPS
CN North-Beijing4	cn-north-4	drs.cn-north-4.myhuaweicloud.com	HTTPS
CN North-Ulanqab1	cn-north-9	drs.cn-north-9.myhuaweicloud.com	HTTPS
CN East-Shanghai 1	cn-east-3	drs.cn-east-3.myhuaweicloud.com	HTTPS
CN East-Shanghai 2	cn-east-2	drs.cn-east-2.myhuaweicloud.com	HTTPS
CN South-Guangzhou	cn-south-1	drs.cn-south-1.myhuaweicloud.com	HTTPS
CN Southwest-Guiyang1	cn-southwest-2	drs.cn-southwest-2.myhuaweicloud.com	HTTPS
LA-Santiago	la-south-2	drs.la-south-2.myhuaweicloud.com	HTTPS
LA-Sao Paulo1	sa-brazil-1	drs.sa-brazil-1.myhuaweicloud.com	HTTPS

Region Name	Region	Endpoint	Protocol
AF-Johannesburg	af-south-1	drs.af-south-1.myhuaweicloud.com	HTTPS
CN-Hong Kong	ap-southeast-1	drs.ap-southeast-1.myhuaweicloud.com	HTTPS
AP-Singapore	ap-southeast-3	drs.ap-southeast-3.myhuaweicloud.com	HTTPS
AP-Bangkok	ap-southeast-2	drs.ap-southeast-2.myhuaweicloud.com	HTTPS
LA-Mexico City2	la-north-2	drs.la-north-2.myhuaweicloud.com	HTTPS
LA-Mexico City1	na-mexico-1	drs.na-mexico-1.myhuaweicloud.com	HTTPS
AP-Jakarta	ap-southeast-4	drs.ap-southeast-4.myhuaweicloud.com	HTTPS
TR-Istanbul	tr-west-1	drs.tr-west-1.myhuaweicloud.com	HTTPS

1.4 Constraints

- The number of DRS tasks that you can create is determined by your quota. For details, see [Service Quota](#).
- DRS v3 APIs support only MySQL-to-MySQL migration and synchronization, MongoDB-to-DDS migration, MySQL-to-Kafka synchronization, GaussDB(for MySQL)-to-Kafka synchronization, GaussDB-to-GaussDB synchronization, GaussDB-to-Kafka synchronization, PostgreSQL-to-PostgreSQL synchronization, and MySQL-to-MySQL disaster recovery. For scenarios in open beta testing, problems may occur during the use of APIs. Exercise caution when calling APIs.
- DRS v5 APIs support only migration from Redis to GeminiDB Redis, migration from cluster Redis to GeminiDB Redis, synchronization from MySQL to MySQL, and synchronization from Oracle to GaussDB Distributed. Exercise caution when calling v5 APIs.

1.5 Basic Concepts

Account

An account is created upon successful registration with Huawei Cloud. 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).

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.

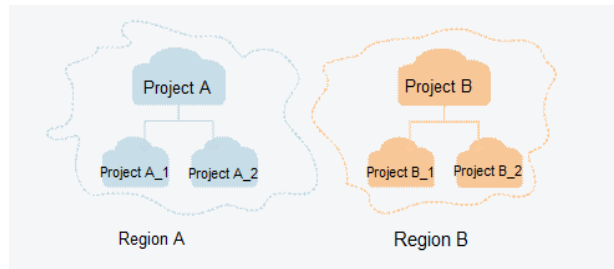
AZ

An AZ comprises one or multiple physical data centers equipped with independent ventilation, fire, water, 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 Huawei Cloud region. Default projects are defined to group and physically isolate resources (including computing, storage, and network resources) across regions. You can grant users permissions in a default project to access all resources in the region associated with the project. If you need more refined access control, create subprojects under a default project and purchase resources in subprojects. Then you can assign users the permissions required to access only the resources in the specific subprojects.

Figure 1-1 Project isolating model



2 API Overview

DRS provides REST APIs. With DRS APIs, you can use all the functions of DRS, including creating migration tasks, obtaining task details, obtaining the migration task list, and deleting migration tasks.

Table 2-1 v3 APIs

Type	Subtype	Description
DRS APIs (v3)	Quotas	The APIs are used to query quotas.
DRS APIs (v3)	Public API management	The APIs are used to create a task, test the connection, perform a pre-check, query task details and progress, create a comparison task, delete a task, retry a task, and stop a task.
DRS APIs (v3)	Real-Time migration management	The APIs are used to obtain migration users of the source database and update user information.
DRS APIs (v3)	Real-time synchronization management	The APIs are used to process data and set the synchronization policy.
DRS APIs (v3)	Real-time disaster recovery management	The APIs are used to perform a primary/standby switchover and query RPO, RTO, DR monitoring data, and DR initialization progress.

Table 2-2 DRS APIs (v5)

Type	Subtype	Description
DRS APIs (v5)	Resource management	The APIs are used to query available link information.

Type	Subtype	Description
DRS APIs (v5)	Task management	The common APIs are used to create, query, update, and delete tasks.
DRS APIs (v5)	Comparison management	The APIs are used to query the comparison policy, health comparison list, and data-level streaming comparison list.
DRS APIs (v5)	Management of tasks created asynchronously in batches	The common APIs are used to asynchronously create tasks in batches, and submit, query, and update the tasks created asynchronously in batches.
DRS APIs (v5)	Database object configuration	The APIs are used to query database object information and import object files.
DRS APIs (v5)	Task details	The APIs are used to query task details.
DRS APIs (v5)	Task operations	The APIs are used to perform task operations.
DRS APIs (v5)	Enterprise project management	This API is used to query enterprise projects.
DRS APIs (v5)	Data processing	The APIs are used to update data processing rules, query data processing rules, and verify data filtering rules.
DRS APIs (v5)	Tag management	The APIs are used to add, delete, and query tags.

3 Calling APIs

3.1 Making an API Request

This section describes the structure of a REST API request, and uses the IAM API for **obtaining a user token** as an example to demonstrate how to call an API for obtaining a user token. The obtained token can then be used to authenticate requests for calling other APIs.

Request URI

A request URI consists of the following parts:

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

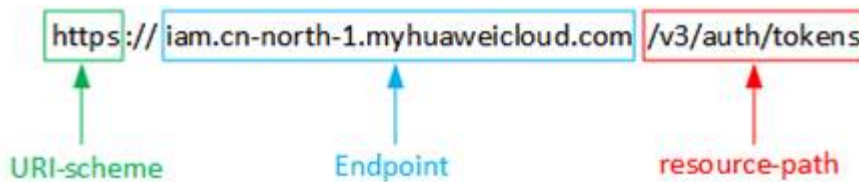
Table 3-1 Request URI

Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS.
endpoint	Domain name or IP address of the server bearing the REST service. The endpoint varies between services in different regions. It can be obtained from Regions and Endpoints . For example, the endpoint of IAM in the CN North-Beijing1 region is iam.cn-north-1.myhuaweicloud.com .
resource-path	API access path for performing a specified operation. Obtain the path from the URI of an API. For example, the resource-path of the API used to obtain a user token is /v3/auth/tokens .
query-string	Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of "Parameter name=Parameter value". For example, ?limit=10 indicates that a maximum of 10 data records will be displayed.

For example, to obtain the IAM token in the **CN North-Beijing1** region, obtain the endpoint of IAM (**iam.cn-north-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.cn-north-1.myhuaweicloud.com/v3/auth/tokens
```

Figure 3-1 Example URI



NOTE

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

Request Method

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

Table 3-2 Request Method

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

For example, in the case 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.

Table 3-3 describes common request headers need to be added to requests.

Table 3-3 Common request headers

Name	Description	Mandatory	Example
Content-Type	Specifies the MIME type of the request body.	Yes	The default value is application/json . Other values will be described in the specific APIs.
Content-Length	Length of the request body. The unit is byte.	<ul style="list-style-type: none"> Optional for POST or PUT requests. Must be left blank for GET requests. 	3495
X-Auth-Token	Specifies a user token. This field is mandatory when token authentication is used. User token is a response to the API for obtaining a user token (only this API does not require authentication).	Yes	-
X-Language	Request language type.	No	en-us

NOTE

For details about other headers, see the HTTP protocol.

The API used to obtain a user token does not require authentication. Therefore, only the **Content-Type** field needs to be added to requests for calling the API. An example of such requests is as follows:

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

Request Body

The body of a request is often sent in a structured format as specified in the **Content-Type** header field. If the request body contains full-width characters, these characters must be coded in UTF-8.

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

In the case of the API used to obtain a user token, the request parameters and parameter description can be obtained from the API request. The following provides an example request with a body included. Replace **username**, **domainname**, ********* (login password), and **projectname** (for example, cn-north-1) with the actual values. You can obtain a project name 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. You can set scope to an account or a project under an account. For details, see [Obtaining a User Token Through Password Authentication](#).

```
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": "projectname"
      }
    }
  }
}
```

If all data required for the API request is available, you can send the request to call the API through [curl](#), [Postman](#), or coding. In the response to the API used to obtain a user token, **x-subject-token** is the desired user token. You can use the token to authenticate other API calls.

3.2 Authentication

You can use the following authentication method:

Token authentication: Requests are authenticated using tokens.

Token Authentication

NOTE

The validity period of a token is 24 hours. When using a token for authentication, cache it to prevent frequently calling the IAM API used to obtain a user token.

A token specifies temporary permissions in a computer system. During API authentication using a token, the token is added to requests to get permissions for calling the API. You can obtain a user token by calling the API for [Obtaining a User Token](#).

A cloud service can be deployed globally or at the project level.

- A project-level service requires a project-level token. When you call the API, set **auth.scope** in the request body to **project**.
- A global service requires a global token. When you call the API, set **auth.scope** in the request body to **domain**.

A project-level token is required for calling APIs of the DRS service. As such, set **auth.scope** in the request body to **project** when you call the API for [obtaining a user token](#).

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

In section [3.1 Making an API Request](#), the process of calling the API used to obtain a user token is described. After a token is obtained, add the **X-Auth-Token** header field must be added to requests to specify the token when calling other APIs. For example, if the token is **ABCDEFJ....**, **X-Auth-Token: ABCDEFJ....** can be added to a request as follows:

```
POST https://iam.cn-north-1.myhuaweicloud.com/v3/auth/projects
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

3.3 Returned Values

Status Code

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

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

For example, if status code 201 is returned for calling the API used to obtain a user token, the request is successful.

Response Header

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

Figure 3-2 shows the response header fields for the API used to obtain a user token is called. 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 3-2 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-lam-trace-id → 218d45ab-d674-4995-af3a-2d0255ba41b5
x-subject-token → MfYXQYKzZlhvCNAQCcLlVYJCCGE=CAQExDTALBglghlg8ZQMEAgEwghar8gkqkhiG9w08BwGgghac8lIwMhoidG9Z2W4OnsiZDhwaXlc19ndCl6jwMTk4MDItMTNUMJ
fj3Kl6fYgKnpWNRBwZeZ5eb78SZ0kqjACgkq01w4lIGzrpd18LGXK5vldf4qHCYb8P4NaY0Nyej-AgzJVeFYlWT1GSO0zxZmlQHq82HqHdgiZ09fuEbl5dMhdavj+33wEi
+HRC9I87o+k9-
+CMZSEB7bUgdSijjeRASX1jppPEGA270g1Fruool6jagfRkNPQuFSOU8+usittVwRtnfsc+qTp22Rkd5MCqFGQ8LcuXc3a+9CM8nOintWW7oeRUVhVpx8pxiXlwTEboX-
Rz16MUlbpvGw-oPNFYuJECKnoH3HRozv0vN--n5d6Nbg==
x-xss-protection → 1; mode=block
    
```

Response Body

The body of a response is often returned in structured format as specified in the **Content-type** header field. The response body transfers content except the response header.

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

```

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

```
{  
  "region_id": "cn-north-1",  
  .....
```

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

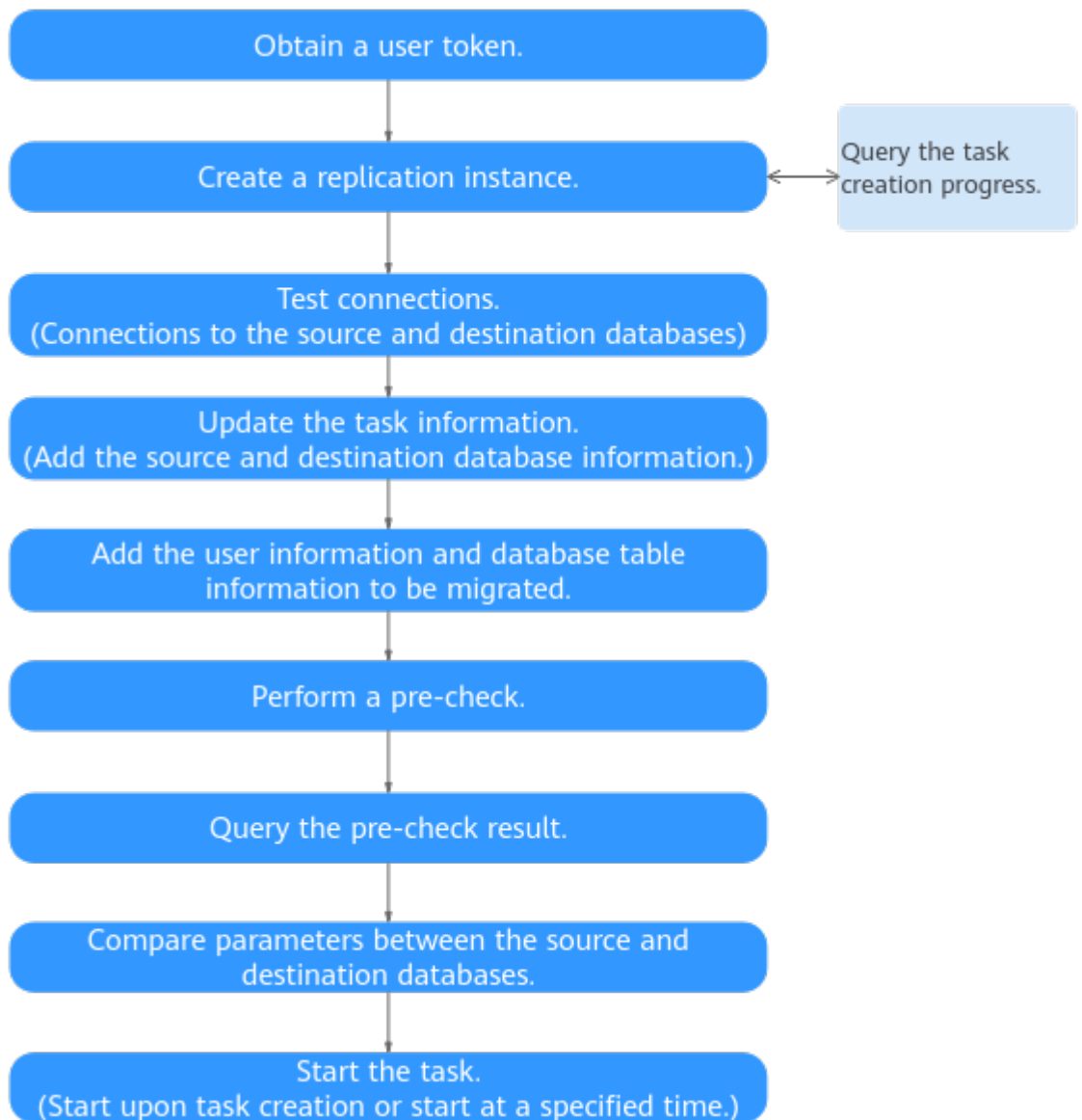
In the response body, **error_code** is an error code, and **error_msg** provides information about the error.

4 Getting Started

4.1 Task Creation Process

Process of Creating a Migration Task

Figure 4-1 Process of creating a real-time migration task

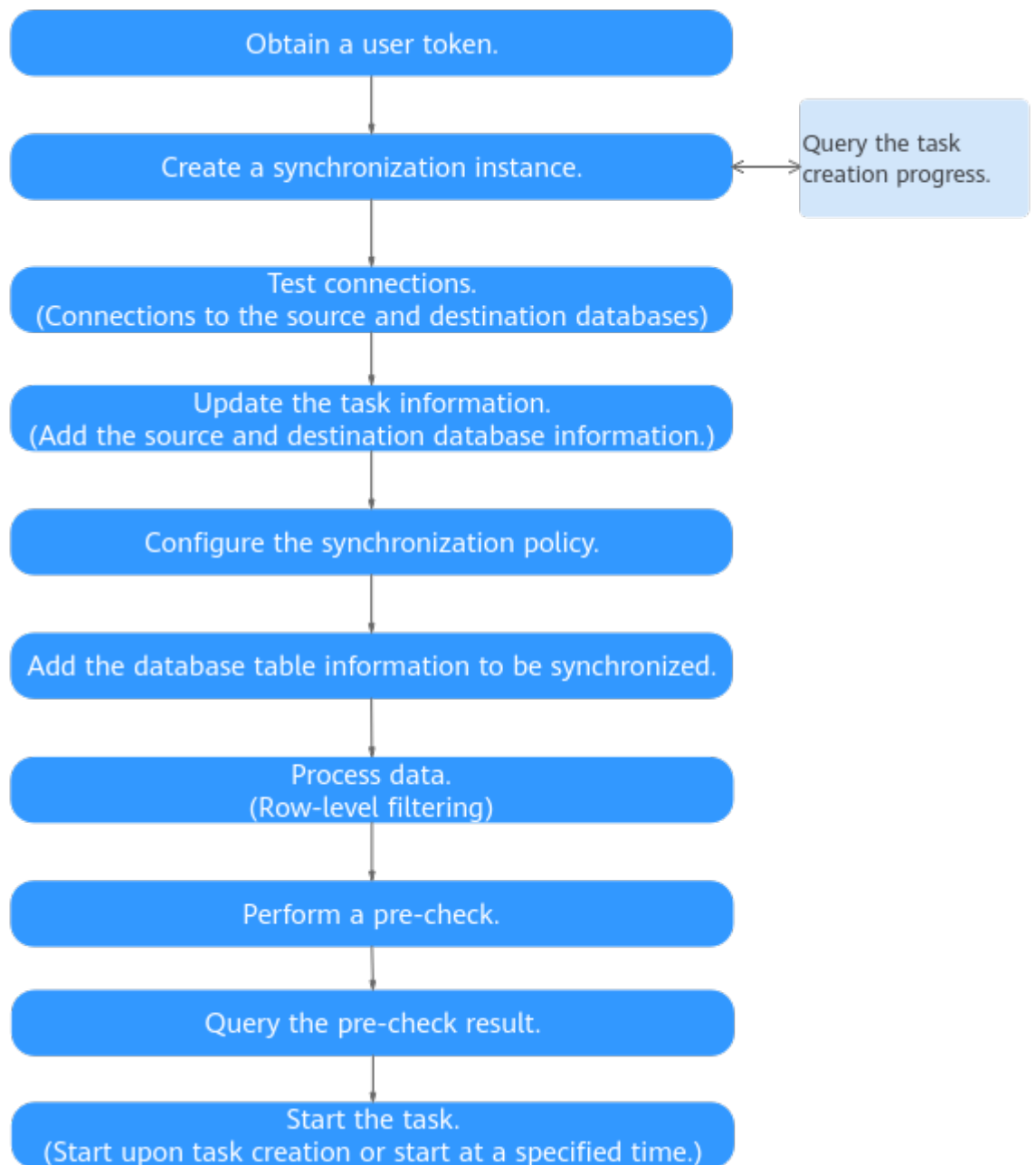


- **Obtaining a User Token:** Call an IAM API to obtain a user token.
- **Creating Tasks in Batches:** Create a migration task.
- **Querying Task Progress in Batches:** Query the status of a task.
- **Testing Connections in Batches:** Test connections to the source and destination databases.
- **Modifying Tasks in Batches:** Modify the task name or description and set exception notification information.

- **Updating Migrated User Information in Batches** and **Selecting Database Objects in Batches**: Update the user and role information and select the database or table to be migrated.
- **Performing a Batch Pre-Check**: Perform a pre-check.
- **Querying Pre-check Results in Batches**: View the pre-check result. After the pre-check is passed, go to the next step.
- **Obtaining Database Parameters in Batches**: Obtain the parameters of the source and destination databases.
- **Starting Tasks in Batches**: Start a real-time migration task.

Process of Creating a Real-Time Synchronization Task

Figure 4-2 Process of creating a real-time synchronization task



- **Obtaining a User Token:** Call an IAM API to obtain a user token.
- **Creating Tasks in Batches:** Create a synchronization task.
- **Querying Task Progress in Batches:** Query the status of a task.
- **Testing Connections in Batches:** Test connections to the source and destination databases.
- **Modifying Tasks in Batches:** Modify the task name or description and set exception notification information.
- **Configuring Synchronization Policies in Batches:** Configure the synchronization policies, including the conflict policy, DROP Database filtering, and object synchronization scope.
- **Selecting Database Objects in Batches:** Select the database or table to be synchronized.
- **Processing Data in Batches:** Add rules for the selected objects.
- **Performing a Batch Pre-Check:** Perform a pre-check.
- **Querying Pre-check Results in Batches:** View the pre-check result. After the pre-check is passed, go to the next step.
- **Starting Tasks in Batches:** Start a real-time synchronization task.

Process of Creating a Real-Time DR Task

Figure 4-3 Process of creating a real-time DR task



- **Obtaining a User Token:** Call an IAM API to obtain a user token.
- **Creating Tasks in Batches:** Create a DR task.
- **Querying Task Progress in Batches:** Query the status of a task.
- **Testing Connections in Batches:** Test connections to the source and destination databases.
- **Modifying Tasks in Batches:** Modify the task name or description and set exception notification information.
- **Setting Flow Control for Tasks:** Configure the rate limit for a DR task.
- **Performing a Batch Pre-Check:** Perform a pre-check.
- **Querying Pre-check Results in Batches:** View the pre-check result. After the pre-check is passed, go to the next step.

- [Obtaining Database Parameters in Batches](#): Obtain the parameters of the source and destination databases.
- [Starting Tasks in Batches](#): Start a real-time DR task.

4.2 Task Creation Example

This section describes how to create a real-time migration task by calling an API.

Involved APIs

- API for obtaining tokens from IAM
Obtain a token and add **X-Auth-Token** to the request header of API calls.
- API used to create a real-time migration task.

Procedure

- Step 1** Obtain the token by referring to [Authentication](#).
- Step 2** Obtain the DRS endpoints.
 - Before calling this API, obtain the required region and endpoint from the enterprise administrator.
 - Before calling this API, obtain the required [region and endpoint](#).
- Step 3** Obtain the project ID of a user in a region. For details, see [Obtaining a Project ID](#).
- Step 4** Send POST `https://{DRS endpoint}/v3/{projectId}/jobs`.
- Step 5** Add **X-Auth-Token** to the request header. The value is user token.
- Step 6** Add the **Content-Type** key to the request header. The value of **Content-Type** is **application/json**.
- Step 7** Specify the following parameters in the request body:

NOTE

For details about the API used for creating DB instances, see [Creating Tasks in Batches](#).

```
{
  "bind_eip": true, // Check whether an EIP has been bound to the replication instance in the public network scenario.
  "db_use_type": "migration", // The usage type. The value can be migration (real-time migration), sync (real-time synchronization), or cloudDataGuard (real-time DR). This parameter is mandatory.
  "description": "", // Task description
  "engine_type": "mysql", // The engine type. The value can be mysql, mongodb, gaussdbv5, or cloudDataGuard-mysql.
  "is_target_readonly": true, // Specifies whether the destination instance is readable only.
  "job_direction": "up", // Task direction. The value can be up or down.
  "name": "DRS-2057", // Task name. This parameter is mandatory.
  "net_type": "eip", // Network type. This parameter is mandatory and the value can be vpn, vpc, or eip.
  "node_type": "high", // Specification type. This parameter is mandatory.
  "source_Endpoint": {}, // Information body of the source database. This parameter is mandatory.
  "db_type": "mysql", // The database type. The value can be mysql, mongodb, gaussdbv5, or gaussdbv5. This parameter is mandatory.
},
{
  "target_Endpoint": {}, // Information body of the destination database
  "db_type": "mysql", // Database type. This parameter is mandatory.
  "inst_id": "63e0699063494a8a93798f38abf3247ein01", // RDS instance ID. This parameter is mandatory when the database is an RDS DB instance.
  "region": "cn-xianhz-1" // The region where the RDS DB instance is located. This parameter is
```

mandatory when the database is an RDS DB instance.

```
    },  
    "task_type": "FULL_INCR_TRANS" //Task mode. The value can be FULL_TRANS or FULL_INCR_TRANS.  
  }
```

If the request fails, an error code and error message are returned. For details, see section [Error Code](#).

----End

5 APIs V3.0 (Recommended)

5.1 Quotas

5.1.1 Querying Resource Quotas

Function

This API is used to query quotas of a tenant.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

URI

GET /v3/{project_id}/quotas

Table 5-1 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 5-2 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type. Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 5-3 Response body parameters

Parameter	Type	Description
quotas	Object	Quota information. For details, see Table 5-4 .

Table 5-4 Data structure description of field **quotas**

Parameter	Type	Description
resource	Object	Quota information. For details, see Table 5-5 .

Table 5-5 Data structure description of field **resource**

Parameter	Type	Description
type	String	Quota type information.
min	Integer	Minimum value of the quota.
max	Integer	Maximum value of the quota.

Parameter	Type	Description
quota	Integer	Actual value of the user quota.
used	Integer	Used quota.

Example Request

Example of querying quotas

https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/quotas

Example Response

Status code: 200

OK

```
{  
  "quotas": {  
    "resource": {  
      "type": "instances",  
      "min": 0,  
      "max": 9999,  
      "quota": 9999,  
      "used": 41  
    }  
  }  
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

5.2 Public API Management

5.2.1 Querying AZs in Which Flavors Are Not Sold Out

Function

This API is used to query AZs where flavors are not sold out.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

URI

POST /v3/{project_id}/available-zone

Table 5-6 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 5-7 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Table 5-8 Request body parameters

Parameter	Mandatory	Type	Description
engine_type	Yes	String	Engine type of a DRS task. For details, see Engine Types .

Parameter	Mandatory	Type	Description
db_use_type	Yes	String	The migration scenario. The value can be migration (real-time migration), sync (real-time synchronization), or cloudDataGuard (real-time disaster recovery). Enumerated values: <ul style="list-style-type: none"> • migration • sync • cloudDataGuard
job_direction	Yes	String	Task direction. Values: <ul style="list-style-type: none"> • up: to-the-cloud scenarios and the current cloud is the standby cloud in the DR. • down: out-of-cloud scenarios and the current cloud is the active cloud in the DR. • non-dbs: self-built databases.
node_type	Yes	String	Flavor type.
multi_write	No	String	Whether the DR mode is dual-active. If this parameter is left blank, the default value is false .

Response Parameters

Status code: 200

Table 5-9 Response body parameters

Parameter	Type	Description
az_infos	Array of objects	AZ information. For details, see Table 5-10 .

Table 5-10 Data structure description of field **az_infos**

Parameter	Type	Description
code	String	AZ ID.
name	String	AZ name.
status	String	AZ status.

Example Request

Example of querying AZs for MySQL synchronization

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/available-zone
{
  "engine_type": "mysql",
  "db_use_type": "sync",
  "job_direction": "up",
  "node_type": "medium"
}
```

Example Response

Status code: 200

OK

```
{
  "az_infos": [ {
    "code": "az1xahz",
    "name": "az1xahz",
    "status": "DISABLED"
  }, {
    "code": "az2xahz",
    "name": "az2",
    "status": "ENABLED"
  }, {
    "code": "az3xahz",
    "name": "az3",
    "status": "ENABLED"
  }, {
    "code": "az4xahz",
    "name": "az4",
    "status": "ENABLED"
  }
]
```

Status Code

Status Code	Description
200	OK

Error Code

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

5.2.2 Querying Task Progress in Batches

Function

This API is used to query the full progress and incremental delay information in batches based on the task ID.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

URI

POST /v3/{project_id}/jobs/batch-progress

Table 5-11 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 5-12 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none">• en-us• zh-cn

Table 5-13 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of strings	Request for querying task progress in batches.

Response Parameters

Status code: 200

Table 5-14 Response body parameters

Parameter	Type	Description
count	Integer	Total number.
results	Array of objects	Response body for querying the migration progress in batches. For details, see Table 5-15 .

Table 5-15 Data structure description of field **results**

Parameter	Type	Description
job_id	String	Task ID.
progress	String	Migration percentage.
incre_trans_delay	String	Incremental migration delay (unit: s).
incre_trans_delay_millis	String	Incremental migration delay (unit: ms).
task_mode	String	Task mode. Values: <ul style="list-style-type: none"> FULL_TRANS: full migration INCR_TRANS: incremental migration FULL_INCR_TRANS: full+incremental migration In the single-active DR scenario, only FULL_INCR_TRANS is available.
transfer_statuses	String	Task status.
process_time	String	Migration time in timestamp format.
remaining_time	String	Estimated remaining time.

Parameter	Type	Description
progress_map	Map<String,P rogressInfo>	Data, structure, and index migration progress information body. For details, see Table 5-16 .
error_code	String	Error code.
error_msg	String	Error message.

Table 5-16 Data structure description of field **progress_map**

Parameter	Type	Description
completed	String	Progress.
remaining_time	String	Estimated remaining time.

Example Request

Example of querying the DR progress:

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-progress
{
  "jobs" : [ "8d0e8e36-a618-490d-8a46-8c61ac9jb502" ]
}
```

Example Response

Status code: 200

OK

- Example response 1 for querying the DR progress:

```
{
  "count" : 1,
  "results" : [ {
    "progress" : "100",
    "job_id" : "8d0e8e36-a618-490d-8a46-8c61ac9jb502",
    "incre_trans_delay" : "0",
    "task_mode" : "FULL_INCR_TRANS",
    "transfer_status" : "INCR_TRANSFER_STARTED",
    "process_time" : "1608274919000",
    "remaining_time" : "0"
  } ]
}
```

- Example response 2 for querying the DR progress:

```
{
  "count" : 2,
  "results" : [ {
    "progress" : "100",
    "job_id" : "edae91cb-5892-49b6-a529-4921fb26jb21",
    "incre_trans_delay" : "0",
    "task_mode" : "FULL_INCR_TRANS",
    "transfer_status" : "INCR_TRANSFER_STARTED",
  } ]
}
```

```
"process_time" : "1594864576000",
"remaining_time" : "10"
}, {
  "progress" : "0",
  "job_id" : "f95c5d83-d0c9-42bd-b295-38c31cd1jb15",
  "incre_trans_delay" : "-1",
  "task_mode" : "FULL_INCR_TRANS",
  "transfer_status" : "FULL_TRANSFER_COMPLETE",
  "process_time" : "0",
  "remaining_time" : "0",
  "progress_map" : {
    "struct" : {
      "completed" : "94%",
      "remaining_time" : null
    },
    "data" : {
      "completed" : "100%",
      "remaining_time" : null
    },
    "index" : {
      "completed" : "100%",
      "remaining_time" : null
    }
  }
}
}]
}
```

Status Code

Status Code	Description
202	Accepted
400	Bad Request

Error Code

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

5.3 Real-Time Disaster Recovery

5.3.1 Querying RPO and RTO in Batches

Function

This API is used to query Recovery Point Objective (RPO) and Recovery Time Objective (RTO).

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

URI

POST /v3/{project_id}/jobs/batch-rpo-and-rto

Table 5-17 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 5-18 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 5-19 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of strings	Request for querying the IDs of RPO and RTO tasks in batches.

Response Parameters

Status code: 202

Table 5-20 Response body parameters

Parameter	Type	Description
count	Integer	Total number.
results	Array of objects	Response body set for querying RPO and RTO in batches. For details, see Table 5-21 .

Table 5-21 Data structure description of field **results**

Parameter	Type	Description
job_id	String	Task ID.
rpo_info	Object	RPO information. For details, see Table 5-22 .
rto_info	Object	RTO information. For details, see Table 5-22 .
error_code	String	Error code.
error_msg	String	Error message.

Table 5-22 Data structure description of fields **rpo_info** and **rto_info**

Parameter	Type	Description
check_point	String	Check point.
delay	String	Delay (unit: ms).
gtid_set	String	GTID.
time	String	Current time. The format is yyyy-MM-dd HH:mm:ss.

Example Request

Example of querying RPO and RTO in batches:

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-rpo-and-rto
{
  "jobs" : [ "8d0e8e36-a618-490d-8a46-8c61ac9jb502" ]
}
```

Example Response

Status code: 202

Accepted

```
{
  "count" : 1,
  "results" : [ {
    "job_id" : "8d0e8e36-a618-490d-8a46-8c61ac9jb502",
    "rpo_info" : {
      "delay" : "0",
      "time" : "2020-12-18 15:47:05",
      "gtid_set" : "NA",
      "check_point" : "mysql-bin.000514:197"
    },
    "rto_info" : {
      "delay" : "0",
      "time" : "2020-12-18 15:47:05",
      "gtid_set" : "NA",
      "check_point" : "mysql-bin.000514:197"
    }
  }
]
```

Status Code

Status Code	Description
202	Accepted
400	Bad Request

Error Code

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

6 APIs V3.0 (Deprecated)

6.1 Public API Management

6.1.1 Creating Tasks in Batches

Function

This API is used to create real-time migration, real-time synchronization, and real-time DR tasks in batches based on different request parameters.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

You can call a maximum of 10 APIs in batches.

URI

POST /v3/{project_id}/jobs/batch-creation

Table 6-1 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-2 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type. The default value is en-us . Values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 6-3 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	Request body for creating tasks. For details, see Table 6-4 .

Table 6-4 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
name	Yes	String	The task name. The task name can be 4 to 50 characters in length. It is case-insensitive and can contain only letters, digits, hyphens (-), and underscores (_). <ul style="list-style-type: none"> • Minimum length: 4 characters • Maximum length: 50 characters

Parameter	Mandatory	Type	Description
db_use_type	Yes	String	<p>Migration scenario.</p> <p>Values:</p> <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery.
engine_type	Yes	String	<p>Engine type of a DRS task.</p> <p>Values:</p> <ul style="list-style-type: none"> • mysql: used for migration and synchronization from MySQL to MySQL • mongodb: used for migration from MongoDB to DDS • cloudDataGuard-mysql: used for DR from MySQL to MySQL • gaussdbv5: used for GaussDB synchronization • mysql-to-kafka: used for synchronization from MySQL to Kafka • taurus-to-kafka: used for synchronization from GaussDB(for MySQL) to Kafka • gaussdbv5ha-to-kafka: used for synchronization from GaussDB primary/standby to Kafka • postgresql: used for synchronization from PostgreSQL to PostgreSQL <p>For details, see Engine Types.</p>

Parameter	Mandatory	Type	Description
job_direction	Yes	String	Task direction. Values: <ul style="list-style-type: none"> • up: to-the-cloud scenarios and the current cloud is the standby cloud in the DR. • down: out-of-cloud scenarios and the current cloud is the active cloud in the DR. • non-dbs: self-built databases.
bind_eip	No	Boolean	Whether to bind an EIP. This parameter is mandatory and set to true when the network type is EIP.
customize_subnet_id	Yes	String	The ID of the subnet where the DRS instance resides, which corresponds to the network ID of the subnet created in the VPC of the destination database. The value is in UUID format.
product_id	No	String	Product ID.
is_target_read_only	No	Boolean	Whether the destination DB instance can be read-only. This parameter is valid only when the destination DB instance is a MySQL DB instance and the job_direction value is up . In the DR scenario, this parameter is mandatory and set to true if the current cloud is a standby cloud. If this parameter is not specified, the default value is true .
net_type	Yes	String	Network type. Value: <ul style="list-style-type: none"> • vpn • vpc • eip The VPC network cannot be selected in the DR scenario.
node_type	Yes	String	The flavor type. Value: high

Parameter	Mandatory	Type	Description
node_num	No	Integer	<p>The number of nodes.</p> <p>For a MongoDB database, this parameter indicates the number of source shards. This parameter is mandatory when the source database is a cluster. The value ranges from 1 to 32. The default value is 2 for MySQL dual-active DR.</p> <p>For a MongoDB database, this parameter indicates the number of source shards. This parameter is mandatory when the source database is a cluster. The value ranges from 1 to 32.</p>
source_endpoint	Yes	Object	<p>The source database information.</p> <p>For details, see Table 6-5.</p>
target_endpoint	Yes	Object	<p>The destination database information.</p> <p>For details, see Table 6-5.</p>
task_type	Yes	String	<p>Task mode. The default value is FULL_INCR_TRANS.</p> <p>Values:</p> <ul style="list-style-type: none"> ● FULL_TRANS: full migration ● FULL_INCR_TRANS: full +incremental migration ● INCR_TRANS: incremental migration <p>In the single-active DR scenario, only FULL_INCR_TRANS is available.</p>
tags	No	Array of object	<p>Tag information. Up to 20 tags can be added.</p> <p>For details, see Table 6-7.</p>
description	No	String	<p>Task description. The task description can contain a maximum of 256 characters and cannot contain the following special characters: ! <>'&"\</p>

Parameter	Mandatory	Type	Description
multi_write	No	Boolean	<ul style="list-style-type: none"> This parameter is mandatory when db_use_type is set to cloudDataGuard. If the DR type is dual-active, the value of multi_write is true. Otherwise, the value is false. If db_use_type is set to other values, multi_write is optional. Default value: false
sys_tags	No	Array of object	Enterprise project. If this parameter is not specified, the value is default . The key must be _sys_enterprise_project_id , and the value is the enterprise project ID. Only one enterprise project can be selected. For details, see Table 6-7 .
expired_days	No	String	After a task is in the abnormal status for a period of time, the task is automatically stopped. The unit is day. The value ranges from 14 to 100. If this parameter is not transferred, the default value is 14 .
master_az	No	String	AZ where the primary task is located. You can obtain the value by calling the API for querying AZs where flavors are not sold out. <ul style="list-style-type: none"> This parameter takes effect when both master_az and slave_az are specified. MySQL and gaussdbv5ha-to-kafka scenarios are supported.

Parameter	Mandatory	Type	Description
slave_az	No	String	<p>AZ where the standby task is located. You can obtain the value by calling the API for querying AZs where flavors are not sold out.</p> <ul style="list-style-type: none"> This parameter takes effect when both master_az and slave_az are specified. MySQL and gaussdbv5ha-to-kafka scenarios are supported.
charging_mode	No	String	<p>Billing Mode: Pay-per-use is used by default.</p> <p>Values:</p> <ul style="list-style-type: none"> period: indicates the monthly/yearly billing. on_demand: indicates the pay-per-use billing. <p>NOTE</p> <ul style="list-style-type: none"> If db_use_type is set to migration, the yearly/monthly billing is not supported. The engine_type can be set to mysql, cloudDataGuard-mysql, postgresql, or gaussdbv5ha-to-kafka.
period_order	No	Object	<p>Yearly/Monthly information.</p> <p>For details, see Table 6-8.</p> <p>NOTE</p> <p>This parameter is mandatory when charging_mode is set to period.</p>
public_ip_list	No	Array of objects	<p>Information about a specified EIP.</p> <p>For details, see Table 6-9.</p>

Table 6-5 Data structure description of fields **source_endpoint** and **target_endpoint**

Parameter	Mandatory	Type	Description
db_type	No	String	Database type. Values: <ul style="list-style-type: none">• mysql: MySQL• mongodb: MongoDB• gaussdbv5: GaussDB Distributed• taurus: GaussDB(for MySQL)• gaussdbv5ha: GaussDB Primary/Standby• kafka: Kafka• postgresql: PostgreSQL
az_code	No	String	azCode of the AZ where the database is located.
region	No	String	Region where the DB instance is located. This parameter is mandatory when the database is a cloud instance, for example, an RDS instance. In DR scenarios, if job_direction is set to down , this parameter is mandatory in source_endpoint . If job_direction is set to up , this parameter is mandatory in target_endpoint .
inst_id	No	String	DB instance ID. This parameter is mandatory when the database is a cloud instance, for example, an RDS instance. In DR scenarios, if job_direction is set to down , this parameter is mandatory in source_endpoint . If job_direction is set to up , this parameter is mandatory in target_endpoint .
vpc_id	No	String	ID of the VPC where the database is located.
subnet_id	No	String	ID of the subnet where the database is located.
security_group_id	No	String	ID of the security group to which the database belongs.

Parameter	Mandatory	Type	Description
project_id	No	String	Project ID of an RDS instance.
db_name	No	String	The service name. This parameter is mandatory when the source database is an Oracle database. The database name can be a maximum of 128 characters in length and cannot contain the following special characters: !<>&'\"
db_password	No	String	Database password.
db_port	No	Integer	Database port. The value is an integer ranging from 1 to 65535.
db_user	No	String	Database user.
inst_name	No	String	RDS instance name.
ip	No	String	Database IP address.
mongo_ha_mode	No	String	Mongo HA mode.
safe_mode	No	Integer	Running mode of an MRS cluster. Values: <ul style="list-style-type: none">• 0: Normal cluster• 1: Security cluster
ssl_cert_password	No	String	SSL certificate password. The certificate file name extension is .p12.
ssl_cert_checksum	No	String	The checksum value of the SSL certificate, which is used for backend verification. This parameter is mandatory for secure connection to the source database.
ssl_cert_key	No	String	SSL certificate content, which is encrypted using Base64.
ssl_cert_name	No	String	SSL certificate name.
ssl_link	No	Boolean	Whether SSL is enabled.
topic	No	String	Kafka topic name.

Parameter	Mandatory	Type	Description
cluster_mode	No	String	For MongoDB 4.0 or later, if the cluster instance cannot obtain the IP address of the sharded node, set source_endpoint to Sharding4.0+ . Default value: Sharding4.0+ Value: Sharding4.0+
kafka_security_config	No	Object	This parameter is only for Kafka security authentication. For details, see Table 6-6 .

Table 6-6 Data structure description of field **kafka_security_config**

Parameter	Mandatory	Type	Description
type	No	String	<p>Security protocol. This parameter is mandatory for security authentication. The corresponding field for Kafka is security.protocol.</p> <ul style="list-style-type: none"> • PLAINTEXT: No security authentication mode is available. You only need to enter an IP address and a port number. • SASL_PLAINTEXT: The SASL mechanism is used to connect to Kafka, and you need to configure SASL parameters. • SSL: The SSL encryption is used to connect to Kafka, and you need to configure SSL parameters. • SASL_SSL: The SASL and SSL encryption authentication modes are used. You need to configure SSL and SASL parameters. <p>Enumerated values:</p> <ul style="list-style-type: none"> • PLAINTEXT • SASL_PLAINTEXT • SASL_SSL • SSL
trust_store_key_name	No	String	<p>Certificate name. This parameter is mandatory when the security protocol is set to SSL or SASL_SSL.</p>
trust_store_key	No	String	<p>Value of the security certificate after Base64 transcoding. This parameter is mandatory when the security protocol is set to SSL or SASL_SSL.</p>
trust_store_password	No	String	<p>Certificate password. This parameter is mandatory when a password is set for the certificate.</p>

Parameter	Mandatory	Type	Description
endpoint_algorithm	No	String	Host name endpoint identification algorithm, which specifies the endpoint identification algorithm for verifying the server host name using the server certificate. If this parameter is left blank, host name verification is disabled. The corresponding field for Kafka is ssl.endpoint.identification.algorithm .
sasl_mechanism	No	String	SASL mechanism used for client connection. The corresponding field for Kafka is sasl.mechanism . The values are as follows: <ul style="list-style-type: none"> • GSSAPI • PLAIN • SCRAM-SHA-256 • SCRAM-SHA-512
delegation_to_kens	No	Boolean	Whether to use token authentication. This parameter is valid only when the security protocol is set to SASL_SSL or SASL_PLAINTEXT and the SASL mechanism is set to SCRAM-SHA-256 or SCRAM-SHA-512 .
enable_key_store	No	Boolean	Whether to enable two-way SSL authentication.
key_store_key	No	String	Keystore certificate. This parameter is mandatory when two-way SSL authentication is enabled.
key_store_key_name	No	String	Keystore certificate name. This parameter is mandatory when two-way SSL authentication is enabled.
key_store_password	No	String	Keystore certificate password. This parameter is mandatory when a password is set for the certificate. The corresponding field for Kafka is ssl.keystore.password .

Parameter	Mandatory	Type	Description
set_private_key_password	No	Boolean	Whether to set the keystore private key password. The default value is false .
key_password	No	String	Keystore private key password. This parameter is mandatory when two-way SSL authentication is enabled and set_private_key_password is set to true . The corresponding field for Kafka is ssl.key.password .

Table 6-7 Data structure description of fields **tags** and **sys_tags**

Parameter	Mandatory	Type	Description
key	No	String	Tag key. The value can contain a maximum of 36 characters, including letters, digits, underscores (_), and hyphens (-).
value	No	String	Tag value. The value can contain a maximum of 43 characters, including letters, digits, underscores (_), and hyphens (-).

Table 6-8 Data structure description of field **period_order**

Parameter	Mandatory	Type	Description
period_type	No	Integer	Subscription period type. Values: <ul style="list-style-type: none"> • 2: indicates that the service is subscribed by month. • 3: indicates that the service is subscribed by year. NOTE This parameter is available and mandatory only when charging_mode is set to period .

Parameter	Mandatory	Type	Description
period_num	No	Integer	<p>Number of subscription periods.</p> <p>Values:</p> <ul style="list-style-type: none"> If period_type is set to 2 (month), the value ranges from 1 to 9. If period_type is set to 3 (year), the value ranges from 1 to 3. <p>NOTE</p> <ul style="list-style-type: none"> This parameter is available and mandatory only when charging_mode is set to period. The value of period_num must be a positive integer.
is_auto_renew	No	Integer	<p>Whether auto renewal is enabled.</p> <p>Values:</p> <ul style="list-style-type: none"> 0: The subscription is not automatically renewed. true: The subscription is automatically renewed. <p>NOTE</p> <p>This parameter is available only when charging_mode is set to period. If this parameter is not specified, automatic renewal is disabled by default.</p>

Table 6-9 Data structure description of field **public_ip_list**

Parameter	Mandatory	Type	Description
id	Yes	String	ID of a specified EIP.
public_ip	Yes	String	EIP.

Parameter	Mandatory	Type	Description
type	Yes	String	Type of a task with an EIP bound. <ul style="list-style-type: none"> In a primary/standby task, master indicates the primary task, and slave indicates the standby task. In other cases, the value is fixed to master. Enumerated values: <ul style="list-style-type: none"> master slave

Response Parameters

Status code: 202

Table 6-10 Response body parameters

Parameter	Type	Description
results	Array of objects	The response body for creating tasks in batches. For details, see Table 6-11 .
count	Integer	Total number of records.

Table 6-11 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.
child_ids	Array of strings	Subtask ID set. This parameter is returned when there are subtasks.
name	String	Task name.
status	String	Task status.
create_time	String	Creation time (timestamp).
error_code	String	Error code.
error_msg	String	Error message.

Example Request

- Creating to-the-cloud MySQL migration tasks in batches, in which **task_type** is set to **FULL_INCR_TRANS**, and **net_type** is set to **eip**

<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-creation>

```
{
  "jobs": [ {
    "name": "DRS-9228",
    "node_type": "high",
    "engine_type": "mysql",
    "net_type": "eip",
    "job_direction": "up",
    "db_use_type": "migration",
    "task_type": "FULL_INCR_TRANS",
    "customize_sutnet_id": "352ad828-3467-4f03-987a-c55a5a9dd417",
    "source_endpoint": {
      "db_type": "mysql"
    },
    "target_endpoint": {
      "region": "cn-xianhz-1",
      "db_type": "mysql",
      "inst_id": "e05a3679efe241d8b5dee80b17c1a863in01"
    },
    "is_target_readonly": false,
    "bind_eip": true
  } ]
}
```

- Creating real-time MySQL DR tasks in batches (current cloud as standby), in which **net_type** is set to **eip**

<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-creation>

```
{
  "jobs": [ {
    "name": "DRS-api-test",
    "engine_type": "cloudDataGuard-mysql",
    "net_type": "eip",
    "node_type": "high",
    "job_direction": "up",
    "source_endpoint": {
      "db_type": "mysql"
    },
    "target_endpoint": {
      "region": "cn-xianhz-1",
      "db_type": "mysql",
      "inst_id": "e05a3679efe241d8b5dee80b17c1a863in01",
      "project_id": "054ba152d480d55b2f5dc0069e7ddef0"
    },
    "is_target_readonly": true,
    "bind_eip": true,
    "db_use_type": "cloudDataGuard",
    "task_type": "FULL_INCR_TRANS",
    "customize_sutnet_id": "352ad828-3467-4f03-987a-c55a5a9dd417",
    "multi_write": false
  } ]
}
```

- Creating to-the-cloud DDS replica set migration tasks in batches, in which **task_type** is set to **FULL_INCR_TRANS**, and **net_type** is set to **eip**

<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-creation>

```
{
  "jobs": [ {
    "name": "DRS-3371-linxiaolu",
    "node_type": "high",
    "engine_type": "mongodb",
    "net_type": "eip",
    "job_direction": "up",
  } ]
}
```

```

"db_use_type": "migration",
"task_type": "FULL_INCR_TRANS",
"customize_sutnet_id": "faf513f3-7a88-4a5c-bec7-238699c29c17",
"source_endpoint": {
  "db_type": "mongodb"
},
"target_endpoint": {
  "region": "cn-xianhz-1",
  "db_type": "mongodb",
  "inst_id": "3cadd5a0ef724f55ac7fa5bcb5f4fc5fin02"
},
"bind_eip": true
}]
}

```

- Creating a MySQL primary/standby synchronization task, in which **task_type** is set to **FULL_INCR_TRANS**, and **net_type** is set to **eip**

<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-creation>

```

{
  "jobs": [ {
    "name": "DRS-linxiaolu-test3",
    "engine_type": "mysql",
    "net_type": "eip",
    "node_type": "high",
    "job_direction": "up",
    "source_endpoint": {
      "db_type": "mysql"
    },
    "target_endpoint": {
      "region": "cn-xianhz-1",
      "db_type": "mysql",
      "inst_id": "64e8d7a31afa476ca85609a17af83765in01",
      "project_id": "054ba152d480d55b2f5dc0069e7ddef0"
    },
    "bind_eip": true,
    "db_use_type": "sync",
    "task_type": "FULL_INCR_TRANS",
    "customize_sutnet_id": "0cf77cfb-3785-4065-a9c4-74b7bb2df071",
    "master_az": "az2xahz",
    "slave_az": "az3xahz"
  } ]
}

```

Example Response

Status code: 202

Accepted

```

{
  "results": [ {
    "id": "e11eaf8f-71ef-4fad-8890-aed7572ajb11",
    "name": "DRS-9228",
    "status": "CREATING",
    "create_time": "1599188556112"
  } ],
  "count": 1
}

```

Status Code

Status Code	Description
202	Accepted

Status Code	Description
400	Bad Request

Error Code

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

6.1.2 Testing Connections in Batches

Function

This API is used to test connections in batches.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

- After the task is created, you can test the connection only when the task status is **CONFIGURATION**.
- In the dual-active DR scenario, the backward task can be executed only when the forward task is in **INCRE_TRANSFER_STARTED** state. The parent task cannot call the API.
- You can call a maximum of 10 APIs in batches.

URI

POST /v3/{project_id}/jobs/batch-connection

Table 6-12 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-13 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 6-14 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	List of requests for testing connections in batches. For details, see Table 6-15 .

Table 6-15 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
id	Yes	String	DRS task ID, which can be obtained from the task list or task details page.
net_type	Yes	String	Network type. Value: <ul style="list-style-type: none"> • vpn • vpc • eip

Parameter	Mandatory	Type	Description
db_type	Yes	String	Database type. Value: <ul style="list-style-type: none">• mysql: MySQL• mongodb: MongoDB• gaussdbv5: GaussDB Distributed• taurus: GaussDB(for MySQL)• gaussdbv5ha: GaussDB Primary/Standby• kafka: Kafka• postgresql: PostgreSQL
ip	Yes	String	Database IP address.
db_port	No	Integer	Database port number. This parameter must be set to 0 for the Mongo and DDS databases.
inst_id	No	String	DB instance ID. This parameter is mandatory when the database is a cloud instance, for example, an RDS instance.
db_user	Yes	String	Database account.
db_password	Yes	String	Database password.
ssl_link	No	Boolean	Whether SSL is enabled. If this parameter is set to true , you need to set parameters related to the SSL certificate.
ssl_cert_key	No	String	SSL certificate content, which is a character string encrypted using BASE64 after the SSL certificate is obtained. This parameter is mandatory when ssl_link is set to true .
ssl_cert_name	No	String	SSL certificate name. This parameter is mandatory when ssl_link is set to true .

Parameter	Mandatory	Type	Description
ssl_cert_check_sum	No	String	The checksum value of the SSL certificate content encrypted using SHA256 after the SSL certificate is obtained, which is used for backend verification. This parameter is mandatory when ssl_link is set to true .
ssl_cert_password	No	String	The SSL certificate password. The certificate file name extension is .p12 and requires a password.
vpc_id	No	String	ID of the VPC where the instance resides. This parameter is mandatory when the database is a cloud instance, for example, an RDS instance.
subnet_id	No	String	ID of the subnet where the instance resides. This parameter is mandatory when the database is a cloud instance, for example, an RDS instance.
end_point_type	Yes	String	Source database: so . Destination database: ta . Default value: so Values: <ul style="list-style-type: none"> • so • ta
region	No	String	Region where the DB instance is located. This parameter is mandatory when the database is a cloud instance, for example, an RDS instance.
project_id	No	String	Project ID of the region where the user is located.
db_name	No	String	Database user name, which is the DDS authentication database or the service name of the Oracle database.

Parameter	Mandatory	Type	Description
kafka_security_config	No	Object	This parameter is only for Kafka security authentication. For details, see Table 6-16 .

Table 6-16 Data structure description of field **kafka_security_config**

Parameter	Mandatory	Type	Description
type	No	String	<p>Security protocol. This parameter is mandatory for security authentication. The corresponding field for Kafka is security.protocol.</p> <ul style="list-style-type: none"> • PLAINTEXT: No security authentication mode is available. You only need to enter an IP address and a port number. • SASL_PLAINTEXT: The SASL mechanism is used to connect to Kafka, and you need to configure SASL parameters. • SSL: The SSL encryption is used to connect to Kafka, and you need to configure SSL parameters. • SASL_SSL: The SASL and SSL encryption authentication modes are used. You need to configure SSL and SASL parameters. <p>Enumerated values:</p> <ul style="list-style-type: none"> • PLAINTEXT • SASL_PLAINTEXT • SASL_SSL • SSL
trust_store_key_name	No	String	Certificate name. This parameter is mandatory when the security protocol is set to SSL or SASL_SSL .

Parameter	Mandatory	Type	Description
trust_store_key	No	String	Value of the security certificate after Base64 transcoding. This parameter is mandatory when the security protocol is set to SSL or SASL_SSL .
trust_store_password	No	String	Certificate password. This parameter is mandatory when security authentication is used.
endpoint_algorithm	No	String	Host name endpoint identification algorithm, which specifies the endpoint identification algorithm for verifying the server host name using the server certificate. If this parameter is left blank, host name verification is disabled. The corresponding field for Kafka is ssl.endpoint.identification.algorithm .
sasl_mechanism	No	String	SASL mechanism used for client connection. This parameter is mandatory when the authentication type is set to SASL_PLAINTEXT or SASL_SSL . The corresponding field for Kafka is sasl.mechanism . The values are as follows: <ul style="list-style-type: none">• GSSAPI• PLAIN• SCRAM-SHA-256• SCRAM-SHA-512
delegation_tokens	No	Boolean	Whether to use token authentication. This parameter is valid only when the security protocol is set to SASL_SSL or SASL_PLAINTEXT and the SASL mechanism is set to SCRAM-SHA-256 or SCRAM-SHA-512 .
enable_key_store	No	Boolean	Whether to enable two-way SSL authentication.

Parameter	Mandatory	Type	Description
key_store_key	No	String	Keystore certificate. This parameter is mandatory when two-way SSL authentication is enabled.
key_store_key_name	No	String	Keystore certificate name. This parameter is mandatory when two-way SSL authentication is enabled.
key_store_password	No	String	Keystore certificate password. This parameter is mandatory when a password is set for the certificate. The corresponding field for Kafka is ssl.keystore.password .
set_private_key_password	No	Boolean	Whether to set the keystore private key password. The default value is false .
key_password	No	String	Keystore private key password. This parameter is mandatory when two-way SSL authentication is enabled and set_private_key_password is set to true . The corresponding field for Kafka is ssl.key.password .

Response Parameters

Status code: 200

Table 6-17 Response body parameters

Parameter	Type	Description
results	Array of objects	Response body set for the batch test connection. For details, see Table 6-18 .
count	Integer	Total number of records.

Table 6-18 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.
status	String	Test result. Value: <ul style="list-style-type: none"> ● success: indicates that the connection test is successful. ● failed: indicates that the connection test fails.
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Whether the request is successful.

Example Request

- Testing connections for a DDS real-time migration task in which the destination database is DDS

`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-connection`

```
{
  "jobs": [ {
    "id": "140b5236-88ad-43c8-811c-1268453jb101",
    "ip": "192.168.4.66:8635,192.168.4.83:8635",
    "net_type": "eip",
    "db_type": "mongodb",
    "db_port": 0,
    "db_user": "root",
    "db_password": "*****",
    "inst_id": "3cadd5a0ef724f55ac7fa5bcb5f4fc5fin02",
    "project_id": "0549a6a31000d4e82fd1c00c3d6f2d76",
    "region": "cn-xianhz-1",
    "end_point_type": "ta"
  } ]
}
```

- Testing connections for an RDS for MySQL real-time migration task in which the destination database is RDS for MySQL

`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-connection`

```
{
  "jobs": [ {
    "id": "140b5236-88ad-43c8-811c-1268453jb101",
    "ip": "192.168.0.131",
    "net_type": "eip",
    "db_type": "mysql",
    "db_port": 3306,
    "db_user": "root",
    "db_password": "*****",
    "inst_id": "e05a3679efe241d8b5dee80b17c1a863in01",
    "project_id": "054ba152d480d55b2f5dc0069e7ddef0",
    "region": "cn-xianhz-1",
    "end_point_type": "ta"
  } ]
}
```

- Testing connections for a MySQL real-time migration task in which the source database is not RDS

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-connection
```

```
{
  "jobs": [ {
    "id": "140b5236-88ad-43c8-811c-1268453jb101",
    "ip": "192.168.0.27",
    "net_type": "eip",
    "db_type": "mysql",
    "db_port": 3306,
    "db_user": "root",
    "db_password": "*****",
    "ssl_link": false,
    "end_point_type": "so"
  } ]
}
```

- **Creating a real-time synchronization task from MySQL to Kafka and setting the Kafka authentication mode to PLAINTEXT**

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-connection
```

```
{
  "jobs": [
    {
      "id": "3bc38fe4-da50-4aad-903e-5db76d8jb20i",
      "ip": "xxxxxxx:xxxx",
      "net_type": "eip",
      "db_type": "kafka",
      "project_id": "5237e10fe9aa4ad5b16b6a5245248314",
      "end_point_type": "ta",
      "kafka_security_config": {
        "type": "PLAINTEXT"
      }
    }
  ]
}
```

- **Creating a real-time synchronization task from MySQL to Kafka and setting the Kafka authentication mode to SASL_PLAINTEXT**

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-connection
```

```
{
  "jobs": [
    {
      "id": "3bc38fe4-da50-4aad-903e-5db76d8jb20i",
      "ip": "xxxxxxx:xxxx",
      "net_type": "eip",
      "db_type": "kafka",
      "db_user": "xxxxxxx",
      "db_password": "xxxxxxx",
      "project_id": "5237e10fe9aa4ad5b16b6a5245248314",
      "end_point_type": "ta",
      "kafka_security_config": {
        "type": "SASL_PLAINTEXT",
        "sasl_mechanism": "PLAIN"
      }
    }
  ]
}
```

- **Creating a real-time synchronization task from MySQL to Kafka and setting the Kafka authentication mode to SSL**

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-connection
```

```
{
  "jobs": [
    {
      "id": "3bc38fe4-da50-4aad-903e-5db76d8jb20i",
      "ip": "xxxxxxx:xxxx",
      "net_type": "eip",

```

```

"db_type": "kafka",
"project_id": "5237e10fe9aa4ad5b16b6a5245248314",
"end_point_type": "ta",
"kafka_security_config": {
  "type": "SSL",
  "trust_store_key_name": "client.truststore.jks",
  "trust_store_key": "xxxxxx",
  "trust_store_password": "xxxxxx",
  "endpoint_algorithm": "",
  "enable_key_store": false
}
}
]
}

```

- Creating a real-time synchronization task from MySQL to Kafka and setting the Kafka authentication mode to SASL_SSL

<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-connection>

```

{
  "jobs": [
    {
      "id": "3bc38fe4-da50-4aad-903e-5db76d8jb20i",
      "ip": "xxxxxxx:xxxx",
      "net_type": "eip",
      "db_type": "kafka",
      "db_user": "xxxxxxx",
      "db_password": "xxxxxxx",
      "project_id": "5237e10fe9aa4ad5b16b6a5245248314",
      "end_point_type": "ta",
      "kafka_security_config": {
        "type": "SSL",
        "trust_store_key_name": "client.truststore.jks",
        "trust_store_key": "xxxxxx",
        "trust_store_password": "xxxxxx",
        "endpoint_algorithm": "",
        "enable_key_store": false
      }
    }
  ]
}

```

Example Response

Status code: 200

OK

```

{
  "results": [ {
    "success": true,
    "id": "140b5236-88ad-43c8-811c-1268453jb101",
    "status": "success"
  } ],
  "count": 1
}

```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.3 Testing Connections in Batches (Cluster Mode)

Function

- This API is used to test connections in cluster mode.
- This API is used to test connections for primary and standby tasks.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

- After the task is created, you can test the connection only when the task status is **CONFIGURATION**.
- You can call a maximum of 10 APIs in batches.

URI

POST /v3/{project_id}/jobs/cluster/batch-connection

Table 6-19 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-20 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 6-21 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	Requests for testing cluster connections in batches. For details, see Table 6-22 .

Table 6-22 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
action	Yes	String	Specific operation to be performed.
job_id	Yes	String	Task ID. (In cluster mode, the value is the ID of the parent task.).
property	Yes	String	The parameter that corresponds to the operation. NOTE Combine the parameters in Table 6-23 into a JSON file and escape the JSON file.

Table 6-23 property field description

Name	Mandatory	Type	Description
dbtype	Yes	String	Database type.
dbport	Yes	Integer	Database port. The value is 0 for the MongoDB engine.

Name	Mandatory	Type	Description
ssllink	Yes	boolean	Whether the connection is an SSL connection. Valid values: <ul style="list-style-type: none">• true• false
nettype	Yes	String	Network type. Valid values: <ul style="list-style-type: none">• vpn• vpc• eip
endpointtype	Yes	String	Endpoint type. Valid values: <ul style="list-style-type: none">• so: indicates the source database.• ta: indicates the destination database.• ls: indicates the sharded database. If the source database is a cluster database, the endpointtype value corresponding to the database IP address is so, and the endpointtype value corresponding to the sharded database is ls.
ip	Yes	String	Database IP address.
dbName	Yes	String	Database name.
instid	No	String	DB instance ID. This parameter is mandatory for cloud DB instances.
dbuser	Yes	String	Database username.
dbpassword	Yes	String	Database password.
sslcertkey	No	String	Content of the SSL certificate. This parameter is required for SSL connection.
sslcertname	No	String	Name of the SSL certificate. This parameter is required for SSL connection.
sslcertchecksum	No	String	Checksum value of the SSL certificate content, which is required for SSL connections.

Name	Mandatory	Type	Description
kafkaSecurityConfig	No	Object	This parameter is mandatory when the Kafka authentication mode is set to a security authentication mode. For details, see Table 6-24 .

Table 6-24 Data structure description of field **kafkaSecurityConfig**

Parameter	Mandatory	Type	Description
type	No	String	<p>Security protocol. This parameter is mandatory for security authentication. The corresponding field for Kafka is security.protocol.</p> <ul style="list-style-type: none"> • PLAINTEXT: No security authentication mode is available. You only need to enter an IP address and a port number. • SASL_PLAINTEXT: The SASL mechanism is used to connect to Kafka, and you need to configure SASL parameters. • SSL: The SSL encryption is used to connect to Kafka, and you need to configure SSL parameters. • SASL_SSL: The SASL and SSL encryption authentication modes are used. You need to configure SSL and SASL parameters. <p>Enumerated values:</p> <ul style="list-style-type: none"> • PLAINTEXT • SASL_PLAINTEXT • SASL_SSL • SSL
trust_store_key_name	No	String	Certificate name. This parameter is mandatory when the security protocol is set to SSL or SASL_SSL .

Parameter	Mandatory	Type	Description
trust_store_key	No	String	Value of the security certificate after Base64 transcoding. This parameter is mandatory when the security protocol is set to SSL or SASL_SSL .
trust_store_password	No	String	Certificate password. This parameter is mandatory when the security protocol is set to SSL or SASL_SSL .
endpoint_algorithm	No	String	Host name endpoint identification algorithm, which specifies the endpoint identification algorithm for verifying the server host name using the server certificate. If this parameter is left blank, host name verification is disabled. The corresponding field for Kafka is ssl.endpoint.identification.algorithm .
sasl_mechanism	No	String	SASL mechanism used for client connection. The corresponding field for Kafka is sasl.mechanism . The values are as follows: <ul style="list-style-type: none"> • GSSAPI • PLAIN • SCRAM-SHA-256 • SCRAM-SHA-512
delegation_to_kens	No	Boolean	Whether to use token authentication. This parameter is valid only when the security protocol is set to SASL_SSL or SASL_PLAINTEXT and the SASL mechanism is set to SCRAM-SHA-256 or SCRAM-SHA-512 .
enable_key_store	No	Boolean	Whether to enable two-way SSL authentication.
key_store_key	No	String	Keystore certificate. This parameter is mandatory when two-way SSL authentication is enabled.

Parameter	Mandatory	Type	Description
key_store_key_name	No	String	Keystore certificate name. This parameter is mandatory when two-way SSL authentication is enabled.
key_store_password	No	String	Keystore certificate password. This parameter is mandatory when two-way SSL authentication is enabled. The corresponding field for Kafka is ssl.keystore.password .
set_private_key_password	No	Boolean	Whether to set the keystore private key password. The default value is false .
key_password	No	String	Keystore private key password. This parameter is mandatory when two-way SSL authentication is enabled and set_private_key_password is set to true . The corresponding field for Kafka is ssl.key.password .

Response Parameters

Status code: 200

Table 6-25 Response body parameters

Parameter	Type	Description
results	Array of objects	Response body set for the batch test connection. For details, see Table 6-26 .
count	Integer	Total number of records.

Table 6-26 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.

Parameter	Type	Description
status	String	Test result. Value: <ul style="list-style-type: none"> true: indicates that the connection test is successful. false: indicates that the connection test fails.
error_code	String	Error code.
error_msg	String	Error message.
success	Boolean	Whether the request is successful.

Example Request

- Testing connections for a MySQL primary/standby task
<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/cluster/batch-connection>

```
{
  "jobs": [{
    "action": "testConnection",
    "job_id": "0ac45233-8de7-4f02-9de1-d71cab7jb201",
    "property": "[{"ip":"192.168.2.232:3306","dbtype":"mysql","dbuser":"root","dbpassword":"*****","sslLink":false,"projectId":"054ba152d480d55b2f5dc0069e7ddef0","region":"cn-xianhz-1","nettype":"eip","endpointtype":"so"}]"
  }]
}
```
- Testing connections for a task in which the source database is DDS cluster
<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/cluster/batch-connection>

```
{
  "jobs" : [ {
    "action" : "testConnection",
    "job_id" : "35d0d60b-4605-4686-b35d-3a3d059fjb15",
    "property" : "[{"dbtype":"mongodb","dbport":0,"sslLink":false,"nettype":"eip","endpointtype":"so","encrypt":{"elementId":"encrypt_switch","offLabel":"OFF","onLabel":"ON"},"disable":false,"ip":"192.168.7.217:8635","dbName":"admin","dbuser":"rwuser","dbpassword":"*****"},{"dbtype":"mongodb","dbport":0,"sslLink":false,"nettype":"eip","endpointtype":"so","encrypt":{"elementId":"encrypt_switch","offLabel":"OFF","onLabel":"ON"},"disable":false,"ip":"192.168.7.72:8635","dbName":"admin","dbuser":"rwuser","dbpassword":"*****"},{"ip":"192.168.7.37:8635","nettype":"eip","dbtype":"mongodb","dbport":0,"dbuser":"rwuser","dbpassword":"*****","sslLink":false,"sslcertkey":"","sslcertname":"","sslcertchecksum":"","endpointtype":"ls","dbName":"admin"}]"
  }]
}
```
- Creating a real-time primary/standby synchronization task from MySQL to Kafka and setting the Kafka authentication mode to SASL_PLAINTEXT
<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/cluster/batch-connection>

```
{
  "jobs": [
    {
      "action": "testConnection",
      "job_id": "f85c660b-c4d0-4571-ac53-629d906jb20i",
      "property": "[{"ip":"xxxxx:xxxx","dbtype":"kafka","dbuser":"xxxxx","dbpassword":"xxxxx","sslLink":false,"projectId":"5237e10fe9aa4ad5b16b6a5245248314","region":"region-1","vpcid":"f7ea6af9-dee8-456f-b3d7-0cc34b4c9cbf","subnetid":"b04c1704-5bd9-4195-9bda-ea2a14e0537e","kafkaSecurityConfig":{"type":"SASL_PLAINTEXT"},"sasl_mechanism":"PLAIN"},"nettype":"vpc","dbUseType":"sync","endpointtype":"ta"}]"
    }
  ]
}
```

```
]
}
```

Example Response

Status code: 200

OK

```
{
  "results": [ {
    "id": "0eb704d0-5a1c-4cbd-b675-91152f06jb11",
    "status": "true"
  } ],
  "count": 1
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.4 Modifying Tasks in Batches

Function

This API is used to modify task names or descriptions in batches and set exception notification.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

- After the test of connections to the source and destination databases is successful, you need to call this API. Enter the source and destination database information according to the example. Otherwise, errors may occur in subsequent tasks.
- This API can be invoked when the task name, description, or exception notification is modified but the task is not in the stopped or deleted state.
- This API is invoked after connections to the source and destination databases are tested. The task must be in **CONFIGURATION** state. In the dual-active DR scenario, the parent task cannot call the API.

- You can call a maximum of 10 APIs in batches.

URI

PUT /v3/{project_id}/jobs/batch-modification

Table 6-27 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-28 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none">en-uszh-cn

Table 6-29 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	Request body for modifying tasks. For details, see Table 6-30 .

Table 6-30 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.
description	No	String	Task description. This parameter is mandatory when you modify the task description. Minimum length: 0 character Maximum length: 256
name	No	String	Task name. Set this parameter when you need to change the task name.
alarm_notify	No	Object	Set exception notification. For details, see Table 6-31 .
task_type	No	String	Task mode. Values: <ul style="list-style-type: none"> ● FULL_TRANS: full migration ● INCR_TRANS: incremental migration ● FULL_INCR_TRANS: full +incremental migration NOTE This parameter can be modified only for MySQL-to-GaussDB(for MySQL) synchronization tasks in the configuring or incremental state.
source_endpoint	No	Object	Source database information. This parameter is mandatory for calling the API after the connection test. For details, see Table 6-33 .
target_endpoint	No	Object	Destination database information. This parameter is mandatory for calling the API after the connection test. For details, see Table 6-33 .
node_type	No	String	Node specification type. This parameter is mandatory when this API is invoked to modify a task after the connection test. Default value: high Value: high

Parameter	Mandatory	Type	Description
engine_type	No	String	<p>Engine type of a DRS task. This parameter is mandatory when this API is invoked to modify a task after the connection test.</p> <p>Values:</p> <ul style="list-style-type: none"> • mysql: used for migration and synchronization from MySQL to MySQL • mongodb: used for migration from MongoDB to DDS • cloudDataGuard-mysql: used for DR from MySQL to MySQL • gaussdbv5: used for GaussDB synchronization • mysql-to-kafka: used for synchronization from MySQL to Kafka • taurus-to-kafka: used for synchronization from GaussDB(for MySQL) to Kafka • gaussdbv5ha-to-kafka: used for synchronization from GaussDB primary/standby to Kafka • postgresql: used for synchronization from PostgreSQL to PostgreSQL <p>For details, see Engine Types.</p>
net_type	No	String	<p>Network type. This parameter is mandatory after the connection test. Values:</p> <ul style="list-style-type: none"> • vpn • vpc • eip
store_db_info	No	Boolean	<p>Whether to save the database information. This parameter is mandatory when the API is called after the connection test.</p>

Parameter	Mandatory	Type	Description
is_recreate	No	Boolean	Whether the task is a rebuilding task.
job_direction	No	String	Task direction. This parameter is mandatory after the connection test. Values: <ul style="list-style-type: none"> • up: to-the-cloud scenarios and the current cloud is the standby cloud in the DR. • down: out-of-cloud scenarios and the current cloud is the active cloud in the DR. • non-dbs: self-built databases.
is_target_read_only	No	Boolean	Whether the destination DB instance can be read-only.
replace_definer	No	Boolean	Whether to migrate all Definers to the user. MySQL databases support this setting. This parameter is mandatory when this API is invoked to modify a task after the connection test. Values: <ul style="list-style-type: none"> • true: The Definers of all source database objects will be migrated to the user. Other users do not have permissions on database objects unless they are authorized. • false: The Definers of all source database objects will not be changed. You need to migrate all accounts and permissions of the source database in the next step.
tags	No	Array of object	Specifies the tag information. For details, see Table 6-35 .

Parameter	Mandatory	Type	Description
db_use_type	No	String	Migration type. Values: <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery.
product_id	No	String	Product ID.

Table 6-31 Data structure description of field **alarm_notify**

Parameter	Mandatory	Type	Description
delay_time	No	Long	Subscription delay, in seconds. <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0
rto_delay	No	Long	Recovery Time Objective (RTO) delay, in seconds. <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0
rpo_delay	No	Long	Recovery Point Objective (RPO) delay, in seconds. <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0
alarm_to_user	No	Boolean	Whether to notify users of alarms. The default value is false .
subscriptions	No	Array of objects	Receiving method and message body. Up to two receiving modes and message bodies are supported. For details, see Table 6-32 .

Table 6-32 Data structure description of field **subscriptions**

Parameter	Mandatory	Type	Description
endpoints	No	Array of strings	List of mobile numbers or email addresses. Use commas (,) to separate multiple mobile numbers or email addresses. Up to 10 mobile numbers or email addresses are supported.
protocol	No	String	Receiving method. Values: <ul style="list-style-type: none"> • sms: SMS message • email: email.

Table 6-33 Data structure description of fields **source_endpoint** and **target_endpoint**

Parameter	Mandatory	Type	Description
db_type	No	String	Database type. This parameter is mandatory when this API is invoked to modify a task after the connection test. Values: <ul style="list-style-type: none"> • mysql: MySQL • mongodb: MongoDB • gaussdbv5: GaussDB Distributed • taurus: GaussDB(for MySQL) • gaussdbv5ha: GaussDB Primary/Standby • kafka: Kafka • postgresql: PostgreSQL
az_code	No	String	Code of the AZ where the database is located.
region	No	String	Region where the DB instance is located. This parameter is mandatory when the database is a cloud instance, for example, an RDS instance. In DR scenarios, if job_direction is set to down , this parameter is mandatory in source_endpoint . If job_direction is set to up , this parameter is mandatory in target_endpoint .

Parameter	Mandatory	Type	Description
inst_id	No	String	ID of the DB instance. This parameter is mandatory when the database is a cloud instance, for example, an RDS instance. In DR scenarios, if job_direction is set to down , this parameter is mandatory in source_endpoint . If job_direction is set to up , this parameter is mandatory in target_endpoint .
vpc_id	No	String	ID of the VPC where the database is located.
subnet_id	No	String	ID of the subnet where the database is located.
security_group_id	No	String	ID of the security group to which the database belongs.
project_id	No	String	Project ID of an RDS instance.
db_name	No	String	The service name. This parameter is mandatory when the source database is an Oracle database. If this parameter is required, you need to manually create the corresponding database. The database name can be a maximum of 128 characters in length and cannot contain the following special characters: ! <>&'\\"
db_password	No	String	Database password. NOTE This parameter is mandatory when this API is invoked to modify a task after the connection test of other engines except the engine that does not require a password.
db_port	No	Integer	Database port. The value is an integer ranging from 1 to 65535.

Parameter	Mandatory	Type	Description
db_user	No	String	Database user. NOTE This parameter is mandatory when this API is invoked to modify a task after the connection test of other engines except the engine that does not require a username.
inst_name	No	String	RDS instance name.
ip	No	String	Database IP address. NOTE This parameter is mandatory when this API is invoked to modify a task after the connection test.
mongo_ha_mode	No	String	Mongo HA mode.
safe_mode	No	Integer	Running mode of an MRS cluster. Values: <ul style="list-style-type: none"> • 0: Normal cluster • 1: Security cluster
ssl_cert_password	No	String	SSL certificate password. The certificate file name extension is .p12.
ssl_cert_checksum	No	String	The checksum value of the SSL certificate, which is used for backend verification. This parameter is mandatory for secure connection to the source database.
ssl_cert_key	No	String	SSL certificate content, which is encrypted using Base64.
ssl_cert_name	No	String	SSL certificate name.
ssl_link	No	Boolean	Whether SSL is enabled.
topic	No	String	Kafka topic name.

Parameter	Mandatory	Type	Description
cluster_mode	No	String	For MongoDB 4.0 or later, if the cluster instance cannot obtain the IP address of the sharded node, set cluster_mode in source_endpoint to Sharding4.0+ . Default value: Sharding4.0+ Value: Sharding4.0+
kafka_security_config	No	Object	This parameter is only for Kafka security authentication. For details, see Table 6-34 .

Table 6-34 Data structure description of field **kafka_security_config**

Parameter	Mandatory	Type	Description
type	No	String	<p>Security protocol. This parameter is mandatory for security authentication. The corresponding field for Kafka is security.protocol.</p> <ul style="list-style-type: none"> • PLAINTEXT: No security authentication mode is available. You only need to enter an IP address and a port number. • SASL_PLAINTEXT: The SASL mechanism is used to connect to Kafka, and you need to configure SASL parameters. • SSL: The SSL encryption is used to connect to Kafka, and you need to configure SSL parameters. • SASL_SSL: The SASL and SSL encryption authentication modes are used. You need to configure SSL and SASL parameters. <p>Enumerated values:</p> <ul style="list-style-type: none"> • PLAINTEXT • SASL_PLAINTEXT • SASL_SSL • SSL
trust_store_key_name	No	String	<p>Certificate name. This parameter is mandatory when the security protocol is set to SSL or SASL_SSL.</p>
trust_store_key	No	String	<p>Value of the security certificate after Base64 transcoding. This parameter is mandatory when the security protocol is set to SSL or SASL_SSL.</p>
trust_store_password	No	String	<p>Certificate password. This parameter is mandatory when a password is set for the certificate.</p>

Parameter	Mandatory	Type	Description
endpoint_algorithm	No	String	Host name endpoint identification algorithm, which specifies the endpoint identification algorithm for verifying the server host name using the server certificate. If this parameter is left blank, host name verification is disabled. The corresponding field for Kafka is ssl.endpoint.identification.algorithm .
sasl_mechanism	No	String	SASL mechanism used for client connection. The corresponding field for Kafka is sasl.mechanism . The values are as follows: <ul style="list-style-type: none"> • GSSAPI • PLAIN • SCRAM-SHA-256 • SCRAM-SHA-512
delegation_to_kens	No	Boolean	Whether to use token authentication. This parameter is valid only when the security protocol is set to SASL_SSL or SASL_PLAINTEXT and the SASL mechanism is set to SCRAM-SHA-256 or SCRAM-SHA-512 .
enable_key_store	No	Boolean	Whether to enable two-way SSL authentication.
key_store_key	No	String	Keystore certificate. This parameter is mandatory when two-way SSL authentication is enabled.
key_store_key_name	No	String	Keystore certificate name. This parameter is mandatory when two-way SSL authentication is enabled.
key_store_password	No	String	Keystore certificate password. This parameter is mandatory when a password is set for the certificate. The corresponding field for Kafka is ssl.keystore.password .

Parameter	Mandatory	Type	Description
set_private_key_password	No	Boolean	Whether to set the keystore private key password. The default value is false .
key_password	No	String	Keystore private key password. This parameter is mandatory when two-way SSL authentication is enabled and set_private_key_password is set to true . The corresponding field for Kafka is ssl.key.password .

Table 6-35 Data structure description of field tags

Parameter	Mandatory	Type	Description
key	No	String	Tag key. The value can contain a maximum of 36 characters, including letters, digits, underscores (_), and hyphens (-). Set this parameter when you need to modify a tag.
value	No	String	Tag value. The value can contain a maximum of 43 characters, including letters, digits, underscores (_), and hyphens (-). Set this parameter when you need to modify a tag.

Response Parameters

Status code: 200

Table 6-36 Response body parameters

Parameter	Type	Description
count	Integer	Total number.
results	Array of objects	List of tasks that are modified in batches. For details, see Table 6-37 .

Table 6-37 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.
status	String	Status Values: <ul style="list-style-type: none"> ● success: The task is successful. ● failed: The task fails.
error_code	String	Error code.
error_msg	String	Error message.

Example Request

- Changing task names of specified instances in batches
<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-modification>

```
{
  "jobs": [ {
    "job_id": "140b5236-88ad-43c8-811c-1268453jb101",
    "name": "testName"
  } ]
}
```
- Setting task exception notifications for specified instances in batches
<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-modification>

```
{
  "jobs": [ {
    "job_id": "8d0e8e36-a618-490d-8a46-8c61ac9jb502",
    "alarm_notify": {
      "delay_time": 0,
      "rto_delay": 0,
      "rpo_delay": 0,
      "alarm_to_user": false,
      "subscriptions": [ {
        "protocol": "sms",
        "endpoints": [ "150*****" ]
      }, {
        "protocol": "email",
        "endpoints": [ "abc@huawei.com" ]
      } ]
    }
  } ]
}
```
- Changing task names and descriptions of specified instances in batches
<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-modification>

```
{
  "jobs": [ {
    "job_id": "140b5236-88ad-43c8-811c-1268453jb101",
    "name": "testName",
    "description": "test description"
  } ]
}
```
- Calling the API after the MySQL connection test
<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-modification>

```
{
  "jobs": [ {
```

```
"job_id": "1fded2ab-ce99-4b0e-9cc9-9ce7e17jb101",
"name": "DRS-5646-linxiaolu",
"source_endpoint": {
  "ip": "192.168.0.27",
  "db_port": "3306",
  "db_user": "root",
  "db_password": "*****",
  "ssl_link": false,
  "db_type": "mysql",
  "project_id": "054ba152d480d55b2f5dc0069e7ddef0"
},
"target_endpoint": {
  "region": "cn-xianhz-1",
  "db_type": "mysql",
  "db_user": "root",
  "db_password": "*****",
  "project_id": "054ba152d480d55b2f5dc0069e7ddef0",
  "inst_id": "3def1ac7f8ab4ae48d7c025339f80414in01"
},
"node_type": "high",
"engine_type": "mysql",
"store_db_info": true,
"net_type": "eip",
  "job_direction": "up",
"replace_definer": true
}
}]
}
```

- Calling the API after the connection test for the migration task from MongoDB to DDS is successful.

<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-modification>

```
{
  "jobs": [{
    "job_id": "741d91cf-67e8-4126-ad0f-32f6cccb105",
    "name": "DRS-4513",
    "source_endpoint": {
      "ip": "192.168.11.231:8635,192.168.10.12:8635",
      "db_port": 0,
      "db_user": "rwuser",
      "db_password": "*****",
      "ssl_link": false,
      "db_type": "mongodb",
      "project_id": "0549a6a31000d4e82fd1c00c3d6f2d76",
      "db_name": "admin"
    },
    "target_endpoint": {
      "region": "cn-xianhz-1",
      "db_type": "mongodb",
      "db_user": "rwuser",
      "db_password": "*****",
      "project_id": "0549a6a31000d4e82fd1c00c3d6f2d76",
      "inst_id": "3cadd5a0ef724f55ac7fa5bcb5f4fc5fin02"
    },
    "node_type": "high",
    "engine_type": "mongodb",
    "net_type": "eip",
      "job_direction": "up",
    "store_db_info": true
  }
}
}
```

- Changing the synchronization mode of specified tasks in batches

<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-modification>

```
{
  "jobs": [
    {
      "job_id": "140b5236-88ad-43c8-811c-1268453jb101",
```

```
    "task_type": "FULL_INCR_TRANS"  
  }  
]  
}
```

Example Response

Status code: 200

OK

```
{  
  "results": [ {  
    "id": "efa2bd29-8780-494f-a2ee-188b003ejb11",  
    "status": "success"  
  } ],  
  "count": 1  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.5 Selecting Database Objects in Batches

Function

This API is used to select the databases or tables to be migrated.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

- Only real-time migration and real-time synchronization support object selection.
- After a task is created, the task status is **CONFIGURATION**. The task can be invoked only after the test of connections to the source and destination databases is successful and the API for modifying the task is invoked.
- You can call a maximum of 10 APIs in batches.

URI

PUT /v3/{project_id}/jobs/batch-select-objects

Table 6-38 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-39 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none">• en-us• zh-cn

Table 6-40 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	Request task ID list for updating database objects in batches. For details, see Table 6-41 .

Table 6-41 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.

Parameter	Mandatory	Type	Description
selected	No	Boolean	Whether to select an object. If this parameter is not set, the default value is No . Yes: Customize the objects to be migrated. No: Migrate all VMs.
sync_database	No	Boolean	Whether to perform database-level synchronization.
job	No	Array of objects	Data object selection information. This parameter is mandatory when selected is set to true . For details, see Table 6-42 .

Table 6-42 Data structure description of field **job**

Parameter	Mandatory	Type	Description
id	No	String	When object_type is set to database , this parameter indicates the database name. If object_type is set to table or view , set the field value by referring to the example.
parent_id	No	String	Database name. This parameter is mandatory when object_type is set to table or view .
object_type	No	String	Type. Values: <ul style="list-style-type: none"> • database • table • schema • view
object_name	No	String	Database object name, database name, table name, and view name.

Parameter	Mandatory	Type	Description
select	No	String	Whether to migrate the database objects. true indicates that the database objects will be migrated. false indicates that the database objects will not be migrated. partial indicates some tables in the database will be migrated. If this parameter is not specified, the default value is false .
object_alias_name	No	String	Alias, which is the new mapped name. This parameter is used only for synchronization tasks.

Response Parameters

Status code: 202

Table 6-43 Response body parameters

Parameter	Type	Description
all_counts	Long	Total number.
results	Array of objects	Response list for selecting objects in batches. For details, see Table 6-44 .

Table 6-44 Data structure description of field **results**

Parameter	Type	Description
job_id	String	Task ID.
status	Boolean	The status that indicates that objects are selected.
error_code	String	Error code.
error_msg	String	Error message.

Example Request

- Selecting specified databases and tables for migration
<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-select-objects>

```
{
  "jobs": [ {
    "job": [ {
      "id": "fastunit",
      "parent_id": null,
      "object_name": "fastunit",
      "object_type": "database",
      "select": "partial",
      "object_alias_name": null
    }, {
      "id": "fastunit-*-coll",
      "parent_id": "fastunit",
      "object_name": "coll",
      "object_type": "table",
      "select": "true",
      "object_alias_name": null
    }, {
      "id": "ycy1",
      "parent_id": null,
      "object_name": "ycy1",
      "object_type": "database",
      "select": "partial",
      "object_alias_name": null
    }, {
      "id": "ycy1-*-coll",
      "parent_id": "ycy1",
      "object_name": "coll",
      "object_type": "table",
      "select": "true",
      "object_alias_name": null
    }, {
      "id": "ycy1-*-collcount",
      "parent_id": "ycy1",
      "object_name": "collcount",
      "object_type": "table",
      "select": "true",
      "object_alias_name": null
    }
  ]
}, {
  "job_id": "57fd2692-0ebe-4714-9b59-fe7aa65djb15",
  "selected": true
}
} ]
}
```

- Selecting all objects for migration

<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-select-objects>

```
{
  "jobs": [ {
    "job": [ ],
    "job_id": "e59f5eef-2bcc-4461-b9ac-10aded44jb15",
    "selected": false
  } ]
}
```

Example Response

Status code: 202

Accepted

```
{
  "all_counts": 1,
  "results": [ {
    "job_id": "4d700f6f-9a17-47e0-a7d6-1bc2155jb101",
    "status": true
  } ]
}
```


Status Code

Status Code	Description
202	Accepted
400	Bad Request

Error Code

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

6.1.6 Performing a Batch Pre-Check

Function

This API is used to perform batch pre-check to check whether the migration, synchronization, DR can be performed.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

- After a task is created, the task status is **CONFIGURATION**. The task can be invoked only after the test of connections to the source and destination databases is successful and the API for modifying the task is invoked.
- In the dual-active DR scenario, when the forward task status is **INCRE_TRANSFER_STARTED**, the backward task does not need to call this API, and the parent task cannot call this API.
- You can call a maximum of 10 APIs in batches.

URI

POST /v3/{project_id}/jobs/batch-precheck

Table 6-45 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-46 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 6-47 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	The list of batch pre-check requests. For details, see Table 6-48 .

Table 6-48 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.
precheck_mode	Yes	String	Pre-check mode. Values: <ul style="list-style-type: none"> • forStartJob: This value is specified when the task is started for the first time during task configuration. • forRetryJob: This value is transferred for pre-check after object editing or retry after task failure during incremental task execution. <p>NOTE Specify the value based on the task status. Otherwise, the pre-check may fail, affecting task startup.</p>

Response Parameters

Status code: 200

Table 6-49 Response body parameters

Parameter	Type	Description
results	Array of objects	Pre-check response body. For details, see Table 6-50 .
count	Integer	Total number.

Table 6-50 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.
precheck_id	String	Pre-check ID.
status	String	Success or failure status. Values: <ul style="list-style-type: none"> • success • failed
error_code	String	Error code.
error_msg	String	Error message.

Example Request

Performing a pre-check for a MySQL real-time migration task

`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-precheck`

```
{
  "jobs": [ {
    "job_id": "140b5236-88ad-43c8-811c-1268453jb101",
    "precheck_mode": "forStartJob"
  } ]
}
```

Example Response

Status code: 200

OK

```
{
  "results": [ {
    "id": "140b5236-88ad-43c8-811c-1268453jb101",
    "status": "success",
    "precheck_id": "140b5236-88ad-43c8-811c-1268453jb101"
  } ],
  "count": 1
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.7 Querying Pre-check Results in Batches

Function

This API is used to query the pre-check results of tasks in batches.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

- This API can be called only when the pre-check API is invoked.

URI

POST /v3/{project_id}/jobs/batch-precheck-result

Table 6-51 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-52 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 6-53 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of strings	Request for querying pre-check results in batches. The value cannot be empty. The values must comply with the UUID rule. The task ID must be unique.

Response Parameters

Status code: 200

Table 6-54 Response body parameters

Parameter	Type	Description
results	Array of objects	Response body set for querying pre-check results in batches. For details, see Table 6-55 .
count	Integer	Total number of records.

Table 6-55 Data structure description of field **results**

Parameter	Type	Description
precheck_id	String	ID of the task for querying the pre-check result.
result	Boolean	Whether the pre-check items are passed. true : indicates that the pre-check is passed. The task can be started only after the pre-check is passed.
process	String	Pre-check progress, in percentage.
total_passed_rate	String	Percentage of passed pre-checks.
rds_instance_id	String	RDS DB instance ID.
job_direction	String	Task direction. Values: <ul style="list-style-type: none"> • up: to-the-cloud scenarios and the current cloud is the standby cloud in the DR. • down: out-of-cloud scenarios and the current cloud is the active cloud in the DR. • non-dbs: self-built databases.
precheck_result	Array of object	Pre-check results. For details, see Table 6-56 .
error_msg	String	Error message.
error_code	String	Error code.

Table 6-56 Data structure description of field **precheck_result**

Parameter	Type	Description
item	String	Check item.
result	String	Check results. Values: <ul style="list-style-type: none"> • PASSED • ALARM • FAILED
failed_reason	String	Failure cause.
data	String	Encrypted data.
raw_error_msg	String	Row error message.
group	String	Check item group.

Parameter	Type	Description
failed_sub_jobs	Array of objects	Information about failed subtasks. For details, see Table 6-57 .

Table 6-57 Data structure description of field **failed_sub_jobs**

Parameter	Type	Description
id	String	ID of the subtask that fails to pass the pre-check.
name	String	The name of the subtask that fails to pass the pre-check.
check_result	String	Check results.

Example Request

- Querying pre-check results for a DDS real-time migration task

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-precheck-result
```

```
{
  "jobs": [ "a281f62f-4631-45d6-a2d3-679a9f4jb105" ]
}
```
- Querying pre-check results for a MySQL real-time migration task

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-precheck-result
```

```
{
  "jobs": [ "140b5236-88ad-43c8-811c-1268453jb101" ]
}
```

Example Response

Status code: 200

OK

- Example response for querying the pre-check result during real-time MySQL migration:

```
{
  "count": 1,
  "results": [ {
    "result": true,
    "process": "100%",
    "precheck_id": "140b5236-88ad-43c8-811c-1268453jb101",
    "total_passed_rate": "100%",
    "rds_instance_id": "e05a3679efe241d8b5dee80b17c1a863in01",
    "job_direction": "up",
    "precheck_result": [ {
      "item": "dstDbDiskSize",
      "result": "PASSED",
      "data": "{\"diskSizeTimes\": \"1.5\", \"dstVolumeSize\": \"3766000000\", \"srcIndexSize\": 0, \"size\": \"0\", \"srcIndexAmount\": 0}",
      "group": "db_disk_size"
    } ], {
      "item": "checkIncreSrcDbExistedInDstDb",

```

```
"result" : "PASSED",
"group" : "db_params"
}, {
  "item" : "dbCharacterSetConsistency",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "dbClockConsistency",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "dbCollationServerConsistency",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "dbIsolationLevelConsistency",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "dbParamConsistency",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "dbServerUuidConsistency",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "dstMaxAllowedPacketCheck",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "hasForeignKeyOnUnselectedTable",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "innodbStrictModeConsistency",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "isUserRequireSslLink",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "sqlModeConsistency",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "sqlModeNoEngine",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "srcBinlogFormatCheck",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "srcBinlogRowImageCheck",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "srcDbBinlogExpireLogsDays",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "srcDbBinlogIsOff",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "srcDbExistUnsupportEngineTable",
  "result" : "PASSED",
```



```
"group" : "db_params"
}, {
  "item" : "srcDbIndexKeyLength",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "srcDbNameContainsUnsupportedSymbols",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "srcDbServerIdCheck",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "srcDstTableNameCaseSensitiveCheck",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "srcHasNoPkTableWhenTgtHasInvisiblePk",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "srcRoutinesWithoutPrivilegeCheck",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "srcTableNameContainsNonAscii",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "srcTriggerAndEventCheck",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "srcViewNameContainsNonAscii",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "srclogSlaveUpdatesCheck",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "userRequirementsIsEnoughForDefiner",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "userSelectObjectsCheck",
  "result" : "PASSED",
  "group" : "db_params"
}, {
  "item" : "dstStatusCheck",
  "result" : "PASSED",
  "data" : "",
  "group" : "db_target_status",
  "failed_reason" : ""
}, {
  "item" : "dstDbPrivilegesIsEnough",
  "result" : "PASSED",
  "group" : "db_user_privilege"
}, {
  "item" : "srcDbPrivilegesIsEnoughForIncr",
  "result" : "PASSED",
  "group" : "db_user_privilege"
}, {
  "item" : "dbVersionMeetRequirement",
  "result" : "PASSED",
  "group" : "db_version"
}, {
  "item" : "dstDbVersionSupport",
```

```
    "result": "PASSED",
    "group": "db_version"
  }, {
    "item": "srcDbVersionSupport",
    "result": "PASSED",
    "group": "db_version"
  }, {
    "item": "dstDbConnection",
    "result": "PASSED",
    "group": "network"
  }, {
    "item": "srcDbConnection",
    "result": "PASSED",
    "group": "network"
  }
]
}
```

- Example response for querying the pre-check result during real-time DDS migration:

```
{
  "count": 1,
  "results": [ {
    "result": true,
    "process": "100%",
    "precheck_id": "a281f62f-4631-45d6-a2d3-679a9f4jb105",
    "total_passed_rate": "100%",
    "rds_instance_id": "3cadd5a0ef724f55ac7fa5bcb5f4fc5fin02",
    "job_direction": "up",
    "precheck_result": [ {
      "item": "dstDbDiskSize",
      "result": "PASSED",
      "data": "{size: '5263360', 'dstVolumeSize': '19089431762', 'diskSizeTimes': '1.5'}",
      "group": "db_disk_size"
    }, {
      "item": "srcAndDstCappedCollConsistency",
      "result": "PASSED",
      "group": "db_object_conflict_check"
    }, {
      "item": "srcCollAlreadyExistedInDstColl",
      "result": "PASSED",
      "group": "db_object_conflict_check"
    }, {
      "item": "srcViewAlreadyExistedInDstView",
      "result": "PASSED",
      "group": "db_object_conflict_check"
    }, {
      "item": "rolesDependentCheck",
      "result": "PASSED",
      "group": "db_object_dependency_check"
    }, {
      "item": "usersDependentCheck",
      "result": "PASSED",
      "group": "db_object_dependency_check"
    }, {
      "item": "srcCollHasTtlIndex",
      "result": "ALARM",
      "data": "{srcHasTtlIndexColls: '\\fastunit.ttlsuoyin\\'",
      "group": "db_params",
      "failed_reason": "SRC_HAS_TTL_INDEXES"
    }, {
      "item": "dbSslConsistency",
      "result": "PASSED",
      "group": "db_params"
    }, {
      "item": "dstChunkNumCheck",
      "result": "PASSED",
      "group": "db_params"
    }, {
      "item": "mongoTypeFitTransferMode",
```

```

    "result" : "PASSED",
    "group" : "db_params"
  }, {
    "item" : "srcCollIndexNumCheck",
    "result" : "PASSED",
    "group" : "db_params"
  }, {
    "item" : "srcCollNameContainsUnsupportedSymbols",
    "result" : "PASSED",
    "group" : "db_params"
  }, {
    "item" : "srcDbInstancelEmpty",
    "result" : "PASSED",
    "group" : "db_params"
  }, {
    "item" : "srcDbNameContainsUnsupportedSymbols",
    "result" : "PASSED",
    "group" : "db_params"
  }, {
    "item" : "srcIdIndexCheck",
    "result" : "PASSED",
    "group" : "db_params"
  }, {
    "item" : "userSelectObjectsCheck",
    "result" : "PASSED",
    "group" : "db_params"
  }, {
    "item" : "dstStatusCheck",
    "result" : "PASSED",
    "data" : "",
    "group" : "db_target_status",
    "failed_reason" : ""
  }, {
    "item" : "dstDbPrivilegesIsEnough",
    "result" : "PASSED",
    "group" : "db_user_privilege"
  }, {
    "item" : "srcDbPrivilegesIsEnough",
    "result" : "PASSED",
    "group" : "db_user_privilege"
  }, {
    "item" : "dbVersionMeetRequirement",
    "result" : "PASSED",
    "group" : "db_version"
  }, {
    "item" : "dstDbVersionSupport",
    "result" : "PASSED",
    "group" : "db_version"
  }, {
    "item" : "srcDbVersionSupport",
    "result" : "PASSED",
    "group" : "db_version"
  }, {
    "item" : "dstDbConnection",
    "result" : "PASSED",
    "group" : "network"
  }, {
    "item" : "srcDbConnection",
    "result" : "PASSED",
    "group" : "network"
  }, {
    "item" : "srcShardKeyConfiguration",
    "result" : "ALARM",
    "data" : "{ \"notConfigShardIndexColls
\\\": \"ycsb.usertable,mgo.mycollection7,mgo.mycollection9,mgo.mycollection5,mgo.mycollection4,mgo.m
ycollection3,mgo.mycollection,mgo.mycollection8,mgo.mycollection2,mgo.mycollection6,testdb3.testuk
,testdb3.coll2,testdb3.coll6,testdb3.coll1,testdb3.Coll1,testdb3.testuk2,testdb3.coll5,testdb3.coll4,testdb1
.coll6,testdb1.coll1,testdb1.testuk2,testdb1.coll2,testdb1.testuk,testdb1.coll5,testdb1.coll4,testdb1.Coll1,
Testdb5.coll1,Testdb5.collx,Testdb5.Coll1,fastunit.gudingjihe,fastunit.geohaystack,fastunit.coll,fastunit.w

```

```
eiyisuoyin,fastunit.testSpecial\\\u4E2D\\\u6587~!@#%^&*()_+=-[]
{};:?',fastunit.log,fastunit.twoD,fastunit.lianhesuoyin,fastunit.xishusuoyin,fastunit.quanwensuoyin,fastu
nit.ttlsuoyin,fastunit.putongsuoyin,fastunit.collcount,fastunit.shuzusuoyin,fastunit.twodsphere,fastunit.q
iantaowendangsuoyin,fastunit.indexpartial"}",
  "group" : "src_info_check",
  "failed_reason" : "SRC_INSTANCE_TYPE_IS_REPLICA_SET"
}, {
  "item" : "checkBalanceStatus",
  "result" : "PASSED",
  "group" : "src_info_check"
}, {
  "item" : "srcMongoInstanceType",
  "result" : "PASSED",
  "group" : "src_info_check"
}]
}]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.8 Setting Flow Control for Tasks

Function

This API is used to enable or disable flow control for tasks. By default, the migration speed is not limited after a task is created.

- You can customize the maximum migration speed.
- If the migration speed is not limited, the outbound bandwidth of the source database is maximally used, which causes read consumption on the source database accordingly. For example, if the outbound bandwidth of the source database is 100 MB/s and 80% bandwidth is used, the I/O consumption on the source database is 80 MB/s.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

- You can set the time range based on your service requirements. Flow can be controlled all day or during specific time ranges. The default value is **All day**.
- A maximum of three time ranges can be set, and they cannot overlap.

- The start time cannot be the same as the end time.
- If the start time is 16:00 and the end time is 15:59, the bandwidth is limited for the whole day.
- If **speed_limit** is set to [], the speed is not limited.
- The minute in the start time is ignored. The end time must be ended with 59. For example, 03:59 is equivalent to 04:00 (UTC) and the hour is a two-digit number.
- In the dual-active DR scenario, the parent task cannot call the API.
- This API cannot be used when the task mode is **INCR_TRANS**.

URI

PUT /v3/{project_id}/jobs/batch-limit-speed

Table 6-58 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-59 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 6-60 Request body parameters

Parameter	Mandatory	Type	Description
speed_limits	Yes	Array of objects	Speed limit in DR. For details, see Table 6-61 .

Table 6-61 Data structure description of field `speed_limits`

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.
speed_limit	Yes	Array of objects	Request body of flow control information. For details, see Table 6-62 .

Table 6-62 Data structure description of field `speed_limit`

Parameter	Mandatory	Type	Description
begin	Yes	String	Start time (UTC) of flow control. The start time is an integer in hh:mm format and the minutes part is ignored. hh indicates the hour, for example, 01:00.
end	Yes	String	End time (UTC) in the format of hh:mm, for example, 15:59. The value must end with 59.
speed	Yes	String	Speed. The value ranges from 1 to 9,999, in MB/s.
is_utc	No	Boolean	Whether the UTC time is used.

Response Parameters

Status code: 200

Table 6-63 Response body parameters

Parameter	Type	Description
count	Integer	Total number.
results	Array of objects	List of tasks that are modified in batches. For details, see Table 6-64 .

Table 6-64 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.
status	String	Status Values: <ul style="list-style-type: none"> ● success: The task is successful. ● failed: The task fails.
error_code	String	Error code.
error_msg	String	Error message.

Example Request

Set flow control for DR tasks in batches, in which **speed** is set to **15 MB/s**

`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-limit-speed`

```
{
  "speed_limits": [ {
    "job_id": "7d0504f1-aba3-435f-914f-936b861jb502",
    "speed_limit": [ {
      "begin": "16:00",
      "end": "15:59",
      "speed": "15"
    } ]
  } ]
}
```

Example Response

Status code: 200

OK

```
{
  "results": [ {
    "id": "efa2bd29-8780-494f-a2ee-188b003ejb11",
    "status": "success"
  } ],
  "count": 1
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.9 Obtaining Database Parameters in Batches

Function

To ensure that service applications are not affected after the migration, DRS provides parameter comparison to help you compare parameters between the source and destination databases. This API is used to obtain database parameters of the source and destination databases.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

- Only MySQL migration and MySQL DR support parameter comparison.
- This API can be called only when **job_direction** is set to **up** and the task status is **CONFIGURATION**.
- In the dual-active DR scenario, the parent task cannot call the API.
- The value of **innodb_buffer_pool_size** is set to not exceed 70% of the total memory of the destination database. If you set a larger value for this parameter, the destination database startup may fail. To adjust the value to suit your services, view [Parameters for Comparison](#).

URI

POST /v3/{project_id}/jobs/batch-get-params

Table 6-65 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-66 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 6-67 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of strings	Request body for querying tasks in batches.
refresh	Yes	String	Whether to obtain database parameters again. 1 indicates yes, and 0 indicates no (obtaining parameters from the cache). Set this parameter to 1 when this API is called for the first time.

Response Parameters

Status code: 202

Table 6-68 Response body parameters

Parameter	Type	Description
params_list	Array of objects	Response body for querying database parameters. For details, see Table 6-69 .
count	Integer	Total number.

Table 6-69 Data structure description of field **params_list**

Parameter	Type	Description
params	Array of objects	Data parameter information body. For details, see Table 6-70 .

Table 6-70 Data structure description of field **params**

Parameter	Type	Description
compare_result	String	Parameter comparison result. Values: <ul style="list-style-type: none"> • true • false
data_type	String	Type
group	String	Metric Type Values: <ul style="list-style-type: none"> • common: common parameter. • performance: performance parameter.
key	String	Parameter name
need_restart	String	Whether the instance needs to be restarted. Values: <ul style="list-style-type: none"> • true • false
source_value	String	Source database parameter value.
target_value	String	Parameter value of the destination database.
value_range	String	Value Range
error_code	String	Error code.
error_message	String	Error message.

Example Request

Example of the request body for obtaining database parameters in batches:

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-get-params
{
  "jobs" : [ "140b5236-88ad-43c8-811c-1268453jb101" ],
  "refresh": 1
}
```

Example Response

Status code: 202

Accepted

```
{
  "count" : 1,
  "params_list" : [ {
    "params" : [ {
      "group" : "performance",
      "key" : "binlog_cache_size",
      "source_value" : "16384",
      "target_value" : "32768",
      "compare_result" : "false",
      "data_type" : "figure",
      "value_range" : "4096-16777216",
      "need_restart" : "false"
    }, {
      "group" : "performance",
      "key" : "binlog_stmt_cache_size",
      "source_value" : "32768",
      "target_value" : "32768",
      "compare_result" : "true",
      "data_type" : "figure",
      "value_range" : "4096-16777216",
      "need_restart" : "false"
    }, {
      "group" : "performance",
      "key" : "bulk_insert_buffer_size",
      "source_value" : "8388608",
      "target_value" : "8388608",
      "compare_result" : "true",
      "data_type" : "figure",
      "value_range" : "0-18446744073709551615",
      "need_restart" : "false"
    }, {
      "group" : "common",
      "key" : "character_set_server",
      "source_value" : "utf8",
      "target_value" : "utf8",
      "compare_result" : "true",
      "data_type" : null,
      "value_range" : "utf8|latin1|gbk|utf8mb4",
      "need_restart" : "true"
    }, {
      "group" : "common",
      "key" : "collation_server",
      "source_value" : "utf8_general_ci",
      "target_value" : "utf8_general_ci",
      "compare_result" : "true",
      "data_type" : null,
      "value_range" : "latin1_german1_ci|latin1_swedish_ci|latin1_danish_ci|latin1_german2_ci|latin1_bin|
latin1_general_ci|latin1_general_cs|latin1_spanish_ci|gbk_chinese_ci|gbk_bin|utf8_general_ci|utf8_bin|
utf8_unicode_ci|utf8_icelandic_ci|utf8_latvian_ci|utf8_romanian_ci|utf8_slovenian_ci|utf8_polish_ci|
utf8_estonian_ci|utf8_spanish_ci|utf8_swedish_ci|utf8_turkish_ci|utf8_czech_ci|utf8_danish_ci|
utf8_lithuanian_ci|utf8_slovak_ci|utf8_spanish2_ci|utf8_roman_ci|utf8_persian_ci|utf8_esperanto_ci|
utf8_hungarian_ci|utf8_sinhala_ci|utf8mb4_general_ci|utf8mb4_bin|utf8mb4_unicode_ci|utf8mb4_icelandic_ci|
utf8mb4_latvian_ci|utf8mb4_romanian_ci|utf8mb4_slovenian_ci|utf8mb4_polish_ci|utf8mb4_estonian_ci|
utf8mb4_spanish_ci|utf8mb4_swedish_ci|utf8mb4_turkish_ci|utf8mb4_czech_ci|utf8mb4_danish_ci|
utf8mb4_lithuanian_ci|utf8mb4_slovak_ci|utf8mb4_spanish2_ci|utf8mb4_roman_ci|utf8mb4_persian_ci|
utf8mb4_esperanto_ci|utf8mb4_hungarian_ci|utf8mb4_sinhala_ci",
      "need_restart" : "true"
    }, {
      "group" : "common",
      "key" : "connect_timeout",
      "source_value" : "10",
      "target_value" : "10",
      "compare_result" : "true",
      "data_type" : null,
      "value_range" : "2-31536000",
      "need_restart" : "false"
    }, {
      "group" : "common",
```

```
"key": "explicit_defaults_for_timestamp",
"source_value": "OFF",
"target_value": "OFF",
"compare_result": "true",
"data_type": null,
"value_range": "ON|OFF",
"need_restart": "true"
}, {
"key": "innodb_buffer_pool_size",
"source_value": "536870912",
"target_value": "536870912",
"compare_result": "true",
"data_type": "figure",
"value_range": "5242880-2147483648",
"need_restart": "true"
}, {
"key": "innodb_flush_log_at_trx_commit",
"source_value": "1",
"target_value": "1",
"compare_result": "true",
"data_type": null,
"value_range": "0|1|2",
"need_restart": "false"
}, {
"key": "innodb_lock_wait_timeout",
"source_value": "50",
"target_value": "50",
"compare_result": "true",
"data_type": null,
"value_range": "1-1073741824",
"need_restart": "false"
}, {
"key": "key_buffer_size",
"source_value": "16777216",
"target_value": "16777216",
"compare_result": "true",
"data_type": "figure",
"value_range": "8-9223372036854771712",
"need_restart": "false"
}, {
"key": "long_query_time",
"source_value": "1.000000",
"target_value": "1.000000",
"compare_result": "true",
"data_type": "figure",
"value_range": "0.03-3600",
"need_restart": "false"
}, {
"key": "max_connections",
"source_value": "800",
"target_value": "800",
"compare_result": "true",
"data_type": null,
"value_range": "1-100000",
"need_restart": "false"
}, {
"key": "net_read_timeout",
"source_value": "30",
"target_value": "30",
"compare_result": "true",
"data_type": null,
"value_range": "1-31536000",
```


Error Code

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

6.1.10 Modifying Database Parameters

Function

This API is to modify database parameters.

Constraints

- This API can be called only for MySQL migration and MySQL DR.
- This API can be called only when **job_direction** is set to **up** and the task status is **CONFIGURATION**.
- This API can be called only after the API in [Obtaining Database Parameters in Batches](#) is successfully called.
- In the dual-active DR scenario, the parent task cannot call the API.

URI

POST /v3/{project_id}/jobs/{job_id}/params

Table 6-71 Path parameters

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-72 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 6-73 Request body parameters

Parameter	Mandatory	Type	Description
group	Yes	String	Parameter Groups Values: <ul style="list-style-type: none"> • common • performance
params	Yes	Array of objects	Information about the parameters to be modified. For details, see Table 6-74 .

Table 6-74 Data structure description of field **params**

Parameter	Mandatory	Type	Description
key	Yes	String	Database parameter name.
target_value	Yes	String	Parameter value of the destination database.

Response Parameters

Status code: 202

Table 6-75 Response body parameters

Parameter	Type	Description
success	Boolean	Whether the parameters are modified.
should_restart	String	Whether the instance needs to be restarted. Values: <ul style="list-style-type: none"> • true • false
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Example Request

Changing the value of **binlog_stmt_cache_size** to **32678** and **bulk_insert_buffer_size** to **8388608**

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/140b5236-88ad-43c8-811c-1268453jb101/params
{
  "group": "performance",
  "params": [ {
    "key": "binlog_stmt_cache_size",
    "target_value": "32678"
  }, {
    "key": "bulk_insert_buffer_size",
    "target_value": "8388608"
  } ]
}
```

Example Response

Status code: 202

Accepted

```
{
  "success": true,
  "should_restart": "false"
}
```

Status Code

Status Code	Description
202	Accepted
400	Bad Request

Error Code

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

6.1.11 Starting Tasks in Batches

Function

This API is used to start real-time migration, synchronization, and disaster recovery tasks in batches.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

- This API can be called only after all tasks are configured. For details, see [Task Creation Process](#).
- In the dual-active DR scenario, this operation can be performed only when the forward task status is **INCRE_TRANSFER_STARTED** and **RPO&RTO** is less than 60s. For backward tasks, this operation can be performed only after all tasks are configured. The parent task does not support this operation.
- When a yearly/monthly task created using APIs is started, an order is created and automatically paid.

URI

POST /v3/{project_id}/jobs/batch-starting

Table 6-76 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-77 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none">• en-us• zh-cn

Table 6-78 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	Request list for starting tasks in batches. For details, see Table 6-79 .

Table 6-79 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.
start_time	No	String	Task start time. The timestamp is accurate to milliseconds, for example, 1608188903063. If the value is empty, the task is started immediately.

Response Parameters

Status code: 202

Table 6-80 Response body parameters

Parameter	Type	Description
results	Array of StartJobResp objects	List of real-time disaster recovery tasks that are started in batches.
count	Integer	Total number.

Table 6-81 StartJobResp

Parameter	Type	Description
id	String	Task ID.
status	String	Status Values: <ul style="list-style-type: none"> • success • failed
order_id	String	Order ID. NOTE This parameter is returned for yearly/monthly tasks created using APIs.

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Request

Starting specified DR tasks in batches

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-starting
{
  "jobs": [ {
    "job_id": "140b5236-88ad-43c8-811c-1268453jb101"
  } ]
}
```

Example Response

Status code: 202

Accepted

```
{
  "count": 1,
  "results": [ {
    "id": "140b5236-88ad-43c8-811c-1268453jb101",
    "status": "success"
  } ]
}
```

Status Code

Status Code	Description
202	Accepted
400	Bad Request

Error Code

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

6.1.12 Resuming or Retrying Tasks in Batches

Function

- This API is used to retry failed tasks.
- You can resume a suspended task.
- In the dual-active DR scenario, the parent task cannot call the API.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

URI

POST /v3/{project_id}/jobs/batch-retry-task

Table 6-82 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-83 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none">• en-us• zh-cn

Table 6-84 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	List of requests for resuming upload tasks in batches. For details, see Table 6-85 .

Table 6-85 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.
is_sync_re_edit	No	Boolean	This parameter is mandatory when a task is resumed or retried and must be set to true .

Response Parameters

Status code: 200

Table 6-86 Response body parameters

Parameter	Type	Description
results	Array of objects	List of tasks that can be resumed in batches. For details, see Table 6-87 .
count	Integer	Total number.

Table 6-87 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.
status	String	Status
error_code	String	Error code.
error_msg	String	Error message.

Example Request

Resuming specified tasks in batches

```
https://{endpoint}/v3/054babbbde80d4602f5cc0043a40ed8c/jobs/batch-retry-task
{
  "jobs": [ {
    "job_id": "140b5236-88ad-43c8-811c-1268453jb101"
  } ]
}
```

Example Response

Status code: 200

OK

```
{
  "results": [ {
    "id": "140b5236-88ad-43c8-811c-1268453jb101",
    "status": "success"
  } ],
  "count": 1
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.13 Pausing Tasks in Batches

Function

This API is used to pause tasks in batches.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

- You can pause a task that is being migrated, being synchronized, or being used for disaster recovery.
- In the dual-active DR scenario, the parent task cannot call the API.

URI

POST /v3/{project_id}/jobs/batch-pause-task

Table 6-88 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-89 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 6-90 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	The value cannot contain empty objects. The value of job_id must comply with the UUID rule. For details, see Table 6-91 .

Table 6-91 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.
pause_mode	Yes	String	Pause type. target : Stop replay. all : Stop log capturing and replay. Values: <ul style="list-style-type: none"> • target • all

Response Parameters

Status code: 200

Table 6-92 Response body parameters

Parameter	Type	Description
results	Array of objects	List of tasks to be suspended in batches. For details, see Table 6-93 .
count	Integer	Total number.

Table 6-93 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.
status	String	Pause result.
error_code	String	Error code.
error_msg	String	Error message.

Example Request

Pausing specified tasks in batches

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-pause-task
{
  "jobs": [ [ {
    "job_id": "8d0e8e36-a618-490d-8a46-8c61ac9jb502",
    "pause_mode": "target"
  } ] ]
}
```

Example Response

Status code: 200

OK

```
{
  "results": [ [ {
    "id": "8d0e8e36-a618-490d-8a46-8c61ac9jb502",
    "status": "success"
  } ] ],
  "count": 1
}
```

Status Code

Status Code	Description
200	OK

Status Code	Description
400	Bad Request

Error Code

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

6.1.14 Stopping or Deleting Tasks in Batches

Function

This API is used to stop tasks in batches or delete real-time migration, real-time synchronization, and real-time DR tasks.

After a yearly/monthly task is started, unsubscribe from the order and then call this API to delete the task. For details, see [Unsubscribing from a Yearly/Monthly Task](#).

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

- Only tasks in the **CREATE_FAILED**, **RELEASE_RESOURCE_COMPLETE**, or **RELEASE_CHILD_TRANSFER_COMPLETE** state can be deleted. To delete a task in other states, stop the task first.
- The parent task can call the API only in the dual-active DR scenario.

URI

DELETE /v3/{project_id}/jobs/batch-jobs

Table 6-94 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-95 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none">• en-us• zh-cn

Table 6-96 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	List of requests for stopping or deleting tasks in batches. For details, see Table 6-97 .

Table 6-97 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
delete_type	Yes	String	The value can be terminate , force_terminate , or delete . terminate indicates that the migration task is stopped, force_terminate indicates that the migration task is forcibly stopped, and delete indicates that the migration task is deleted. Values: <ul style="list-style-type: none"> • terminate • force_terminate • delete NOTE You need to manually unsubscribe from a yearly/monthly task, and then set delete_type to delete to delete the task.
job_id	Yes	String	Task ID.
is_show_break_point_position	No	Boolean	Specifies whether to display breakpoint information when a real-time migration, synchronization, or DR task with MySQL serving as the source is complete. The default value is null , indicating that the breakpoint information is not displayed.

Response Parameters

Status code: 202

Table 6-98 Response body parameters

Parameter	Type	Description
results	Array of objects	Response body set for stopping or deleting tasks in batches. For details, see Table 6-99 .
count	Integer	Total number.

Table 6-99 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.
status	String	Status Values: <ul style="list-style-type: none"> ● success ● failed
error_code	String	Error code.
error_msg	String	Error message.

Example Request

- Stopping two specified tasks

`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-jobs`

```
{
  "jobs": [ {
    "delete_type": "terminate",
    "job_id": "4c6ac8c0-2f51-426a-97b2-cb2c668jb201"
  }, {
    "delete_type": "terminate",
    "job_id": "6211d20d-0006-41da-836e-db3301ajb20b"
  } ]
}
```

- Deleting a specified task

`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-jobs`

```
{
  "jobs": [ {
    "delete_type": "delete",
    "job_id": "140b5236-88ad-43c8-811c-1268453jb101"
  } ]
}
```

- Displaying breakpoint information when a task is complete

`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-jobs`

```
{
  "jobs": [ {
    "delete_type": "terminate",
    "job_id": "6211d20d-0006-41da-836e-db3301ajb20b",
    "is_show_breakpoint_position": true
  } ]
}
```

Example Response

Status code: 202

Accepted

- Example response for stopping a task

```
{
  "count": 2,
  "results": [ {
    "id": "4c6ac8c0-2f51-426a-97b2-cb2c668jb201",
    "status": "success"
  } ]
}
```

```

    }, {
      "id" : "6211d20d-0006-41da-836e-db3301ajb20b",
      "status" : "failed",
      "error_code" : "DRS.M01504",
      "error_msg" : "Another operation is being performed on the migration task or the migration task is
abnormal. Try again later."
    }
  ]
}

```

- Example response for deleting a task

```

{
  "count" : 1,
  "results" : [ {
    "id" : "140b5236-88ad-43c8-811c-1268453jb101",
    "status" : "success"
  }
]
}

```

Status Code

Status Code	Description
202	Accepted
400	Bad Request

Error Code

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

6.1.15 Changing the Passwords of the Source and Destination Databases in Batches

Function

This API is used to change the passwords of the source and destination databases after a task is started.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

- This API can be called only when the task is in the **STARTJOBING**, **STARTJOB_FAILED**, **FULL_TRANSFER_STARTED**, **FULL_TRANSFER_FAILED**, **FULL_TRANSFER_COMPLETE**, **INCRE_TRANSFER_STARTED**, **INCRE_TRANSFER_FAILED** or **PAUSING** state.
- In the dual-active DR scenario, the parent task cannot call the API.

URI

PUT /v3/{project_id}/jobs/batch-modify-pwd

Table 6-100 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-101 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none">• en-us• zh-cn

Table 6-102 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	List of database passwords to be changed in batches. For details, see Table 6-103 .

Table 6-103 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
db_password	Yes	String	Database password.

Parameter	Mandatory	Type	Description
end_point_type	Yes	String	Type. so indicates the source database. ta indicates the destination database. Values: <ul style="list-style-type: none"> • so • ta
job_id	Yes	String	Task ID.
kerberos	No	Object	Information required for Kerberos authentication. For details, see Table 6-104 .

Table 6-104 Data structure description of field **kerberos**

Parameter	Mandatory	Type	Description
krb5_conf_file	No	String	krb5 configuration file.
key_tab_file	No	String	Key file.
domain_name	No	String	Domain name.
user_principal	No	String	Kerberos user object.

Response Parameters

Status code: 200

Table 6-105 Response body parameters

Parameter	Type	Description
count	Integer	Total number.
results	Array of objects	List of tasks that are modified in batches. For details, see Table 6-106 .

Table 6-106 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.

Parameter	Type	Description
status	String	Status Values: <ul style="list-style-type: none"> ● success: The task is successful. ● failed: The task fails.
end_point_type	String	Type. so indicates the source database. ta indicates the destination database.
error_code	String	Error code.
error_msg	String	Error message.

Example Request

Changing the passwords of the source and destination databases of specified tasks in batches

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-modify-pwd
```

```
{
  "jobs": [ {
    "db_password": "*****#",
    "end_point_type": "so",
    "job_id": "25df459d-a37c-41b9-bc2b-8c00ba32jb52"
  }, {
    "db_password": "*****#",
    "end_point_type": "ta",
    "job_id": "25df459d-a37c-41b9-bc2b-8c00ba32jb52"
  } ]
}
```

Example Response

Status code: 200

OK

```
{
  "results": [ {
    "id": "8d0e8e36-a618-490d-8a46-8c61ac9jb502",
    "status": "success",
    "end_point_type": "so"
  }, {
    "id": "8d0e8e36-a618-490d-8a46-8c61ac9jb502",
    "status": "success",
    "end_point_type": "ta"
  } ],
  "count": 2
}
```

Status Code

Status Code	Description
200	OK

Status Code	Description
400	Bad Request

Error Code

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

6.1.16 Setting Definers in Batches

Function

The API is used to set whether to migrate Definers to the user in batches.

- If you select **Yes**, the Definers of all source database objects will be migrated to the user. Other users do not have permissions on database objects unless they are authorized.
- If you select **No**, the Definers of all source database objects will not be changed. You need to migrate all accounts and permissions of the source database in the next step.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

This API can be called only when the task status is **CONFIGURATION**.

URI

POST /v3/{project_id}/jobs/batch-replace-definer

Table 6-107 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-108 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 6-109 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	List of requests for setting replaceDefiners in batches. For details, see Table 6-110 .

Table 6-110 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.
replace_definer	Yes	Boolean	Whether to replace the definer with the destination database user.

Response Parameters

Status code: 200

Table 6-111 Response body parameters

Parameter	Type	Description
count	Integer	Total number.

Parameter	Type	Description
results	Array of objects	List of tasks that are modified in batches. For details, see Table 6-112 .

Table 6-112 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.
status	String	Status Values: <ul style="list-style-type: none"> ● success: The task is successful. ● failed: The task fails.
error_code	String	Error code.
error_msg	String	Error message.

Example Request

Setting definers for specified tasks in batches

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-replace-definer
{
  "jobs": [ [ {
    "job_id": "7c685701-bfb5-4bb9-89f1-d0567f5jb502",
    "replace_definer": true
  } ] ]
}
```

Example Response

Status code: 200

OK

```
{
  "count": 1,
  "results": [ {
    "id": "7c685701-bfb5-4bb9-89f1-d0567f5jb502",
    "status": "success"
  } ]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.17 Creating a Comparison Task

Function

This API is used to create a comparison task

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

In the current version, a comparison task can be created only when the task is in the **INCRE_TRANSFER_STARTED** state. The parent task cannot call the API.

URI

POST /v3/{project_id}/jobs/create-compare-task

Table 6-113 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-114 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 6-115 Request body parameters

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.
object_level_compare_type	No	String	Object-level comparison type. If the value is empty, the object-level comparison is not created. If both object_level_compare_type and data_level_compare_info are left empty, only the created comparison task list is queried. Value: objects
data_level_compare_info	No	Object	Data-level comparison information. If no data-level comparison is created, this parameter does not need to be transferred. If both object_level_compare_type and data_level_compare_info are left empty, only the created comparison task list is queried. For details, see Table 6-116 .

Table 6-116 Data structure description of field **data_level_compare_info**

Parameter	Mandatory	Type	Description
conflict_policy	Yes	String	Only one unfinished data-level comparison task can exist. This field determines how to process unfinished data-level comparison tasks. cancel : Cancel the unfinished task and create a new one. keep : Retain the unfinished task. Values: <ul style="list-style-type: none"> • cancel • keep
compare_type	Yes	String	Data-level comparison type. lines : indicates row comparison. contents : indicates value comparison. Values: <ul style="list-style-type: none"> • lines • contents NOTE Object-level comparison and value comparison cannot be performed at the same time.
compare_mode	No	String	Data-level comparison mode. If the value is empty, the object information needs to be transferred in compare_object_infos or compare_object_infos_with_token . quick_comparison : indicates quick comparison, which can be used only by whitelisted users. Default value: quick_comparison Value: quick_comparison
start_time	No	String	Start time of a comparison task. If the value is empty, the task is started immediately.

Parameter	Mandatory	Type	Description
compare_object_infos	No	Array of objects	Data-level comparison object. In non-quick comparison mode, either compare_object_infos or compare_object_infos_with_token must be specified based on the migration scenario. For details, see Table 6-117 .
compare_object_infos_with_token	No	Array of objects	Object for data-level comparison (Cassandra DR only, with token information). In non-quick comparison mode, either compare_object_infos or compare_object_infos_with_token must be specified based on the migration scenario. For details, see Table 6-118 .

Table 6-117 Data structure description of field **compare_object_infos**

Parameter	Mandatory	Type	Description
db_name	Yes	String	Database name.
table_name	No	Array of strings	List of table names in the database.

Table 6-118 Data structure description of field **compare_object_infos_with_token**

Parameter	Mandatory	Type	Description
db_name	Yes	String	Database name.
table_name_with_token	No	Array of objects	List of tables (with tokens) in the database. For details, see Table 6-119 .

Table 6-119 Data structure description of field **table_name_with_token**

Parameter	Mandatory	Type	Description
table_name	Yes	String	Table name
min_token	No	String	Min token of a table.

Parameter	Mandatory	Type	Description
max_token	No	String	Max token of a table.

Response Parameters

Status code: 200

Table 6-120 Response body parameters

Parameter	Type	Description
job_id	String	Task ID
object_level_compare_create_result	Object	Result of creating an object-level comparison task. For details, see Table 6-121 .
data_level_compare_create_result	Object	Result of creating a data-level comparison task. For details, see Table 6-121 .
error_code	String	Error code.
error_msg	String	Error message.

Table 6-121 Data structure description of fields
object_level_compare_create_result and **data_level_compare_create_result**

Parameter	Type	Description
compare_task_id	String	After the comparison task is created, the ID of the comparison task is returned for querying the result of the comparison task.
error_code	String	Error code.
error_msg	String	Error message.

Example Request

Creating object-level comparison and data-level row comparison tasks

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/create-compare-task
{
  "job_id": "94800607-3cd8-4f7d-a340-63a10f8jb502",
  "object_level_compare_type": "objects",
  "data_level_compare_info": {
    "conflict_policy": "keep",
    "compare_type": "lines",
    "compare_mode": null,
  }
}
```



```
"start_time": null,  
"compare_object_infos": [ {  
  "db_name": "may_5",  
  "table_name": [ "table_name_0", "table_name_1" ]  
} ]  
}  
}
```

Example Response

Status code: 200

OK

```
{  
  "job_id": "94800607-3cd8-4f7d-a340-63a10f8jb502",  
  "object_level_compare_create_result": {  
    "compare_task_id": "dc1683d9-bdf2-4be9-967f-6ef0953369bc"  
  },  
  "data_level_compare_create_result": {  
    "compare_task_id": "08cad1f8-9de2-42fa-b8ce-6c36daf730f6"  
  }  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.18 Querying Comparison Results

Function

This API is used to query the comparison result.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

This API can be called only after the API in [Creating a Comparison Task](#) is successfully called.

URI

POST /v3/{project_id}/jobs/query-compare-result

Table 6-122 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-123 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none">• en-us• zh-cn

Table 6-124 Request body parameters

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID
object_level_compare_id	No	String	ID of the object-level comparison task that requests the query result.
line_compare_id	No	String	ID of the row comparison task that requests the query result.
content_compare_id	No	String	ID of the value comparison task that requests the query result.

Parameter	Mandatory	Type	Description
current_page	Yes	Integer	Current page number for pagination query, which is valid for the query result of comparison tasks.
per_page	Yes	Integer	Number of records on each page. This parameter is valid only for query results of comparison tasks.

Response Parameters

Status code: 200

Table 6-125 Response body parameters

Parameter	Type	Description
job_id	String	Task ID
object_level_compare_results	Object	Object-level comparison result. For details, see Table 6-126 .
line_compare_results	Object	Row comparison result. For details, see Table 6-129 .
content_compare_results	Object	Value comparison result. For details, see Table 6-133 .
compare_task_list_results	Object	List of comparison tasks. For details, see Table 6-139 .
error_code	String	Error code.
error_msg	String	Error message.

Table 6-126 Data structure description of field **object_level_compare_results**

Parameter	Type	Description
compare_task_id	String	ID of an object-level comparison task.
object_compare_overview	Array of objects	Overview of object comparison results. For details, see Table 6-127 .

Parameter	Type	Description
object_compare_details	Map<String,Array<ObjectCompareResultDetails>>	Object comparison result details. The key value is the object type in the object comparison result overview. For details, see Table 6-128 .
error_code	String	Error code.
error_msg	String	Error message.

Table 6-127 Data structure description of field **object_compare_overview**

Parameter	Type	Description
object_type	String	Object type. Values: <ul style="list-style-type: none"> ● DB-database ● TABLE-table ● VIEW-view ● EVENT-event ● ROUTINE - stored procedure and function ● INDEX: index ● TRIGGER: trigger ● SYNONYM - synonym ● FUNCTION-function ● PROCEDURE: stored procedure ● TYPE: user-defined type ● RULE-rule ● DEFAULT_TYPE: default value ● PLAN_GUIDE-execution plan ● CONSTRAINT-constraint ● FILE_GROUP-file group ● PARTITION_FUNCTION-partition function ● PARTITION_SCHEME-partition scheme ● TABLE_COLLATION-table sorting rule ● EXTENSIONS - Plugin

Parameter	Type	Description
object_compare_result	String	Comparison result. Values: <ul style="list-style-type: none"> ● CONSISTENT: consistent ● INCONSISTENT: inconsistent ● COMPARING: The comparison is in progress ● WAITING_FOR_COMPARISON: waiting for comparison ● FAILED_TO_COMPARE: comparison failure ● TARGET_DB_NOT_EXIT-Destination database does not exist ● CAN_NOT_COMPARE-Cannot be compared
target_count	Integer	Number of objects of this type in the destination database.
source_count	Integer	Number of objects of this type in the source database.
diff_count	Integer	Number of differences between the source and destination databases.

Table 6-128 Data structure description of field **object_compare_details**

Parameter	Type	Description
source_db_name	String	Source database name.
target_db_name	String	Destination database name.
source_db_value	String	Value in the source database.
target_db_value	String	Value in the destination database.
error_message	String	Error message.

Table 6-129 Data structure description of field **line_compare_results**

Parameter	Type	Description
compare_task_id	String	ID of a row comparison task.

Parameter	Type	Description
line_compare_overview	Array of objects	Row comparison result overview. For details, see Table 6-130 .
line_compare_overview_count	Integer	Row comparison result overview.
line_compare_details	Array of objects	Row comparison result details. For details, see Table 6-131 .
error_code	String	Error code.
error_msg	String	Error message.

Table 6-130 Data structure description of field **line_compare_overview**

Parameter	Type	Description
source_db_name	String	Source database name.
target_db_name	String	Destination database name.
line_compare_result	String	Comparison result. Values: <ul style="list-style-type: none"> • CONSISTENT: consistent • INCONSISTENT: inconsistent • COMPARING: The comparison is in progress • WAITING_FOR_COMPARISON: waiting for comparison • FAILED_TO_COMPARE: comparison failure • TARGET_DB_NOT_EXIST-Destination database does not exist • CAN_NOT_COMPARE-Cannot be compared

Table 6-131 Data structure description of field **line_compare_details**

Parameter	Type	Description
source_db_name	String	Source database name.
line_compare_detail	Array of objects	Row comparison details of the tables in the database. For details, see Table 6-132 .

Parameter	Type	Description
line_compare_detail_count	Integer	Total number of row comparison results in the database.

Table 6-132 Data structure description of field **line_compare_detail**

Parameter	Type	Description
source_table_name	String	Table name of the source database.
target_table_name	String	Table name of the destination database.
source_row_num	Integer	Number of table rows in the source database.
target_row_num	Integer	Number of table rows in the destination database.
diff_row_num	Integer	Difference between the tables in the source and destination databases.
line_compare_result	String	Comparison result. Values: <ul style="list-style-type: none"> ● CONSISTENT: consistent ● INCONSISTENT: inconsistent ● COMPARING: The comparison is in progress ● WAITING_FOR_COMPARISON: waiting for comparison ● FAILED_TO_COMPARE: comparison failure ● TARGET_DB_NOT_EXIST-Destination database does not exist ● CAN_NOT_COMPARE-Cannot be compared
message	String	Additional information.

Table 6-133 Data structure description of field **content_compare_results**

Parameter	Type	Description
compare_task_id	String	ID of a value comparison task.
content_compare_overview	Array of objects	Content comparison result overview. For details, see Table 6-134 .

Parameter	Type	Description
content_compare_overview_count	Integer	Total number of value comparison results.
content_compare_details	Array of objects	Value comparison result details. For details, see Table 6-135 .
content_compare_diffs	Array of objects	The value comparison results are different. For details, see Table 6-137 .
error_code	String	Error code.
error_msg	String	Error message.

Table 6-134 Data structure description of field **content_compare_overview**

Parameter	Type	Description
source_db_name	String	Source database name.
target_db_name	String	Destination database name.
content_compare_result	String	Comparison result. Values: <ul style="list-style-type: none"> ● CONSISTENT: consistent ● INCONSISTENT: inconsistent ● COMPARING: The comparison is in progress ● WAITING_FOR_COMPARISON: waiting for comparison ● FAILED_TO_COMPARE: comparison failure ● TARGET_DB_NOT_EXIT-Destination database does not exist ● CAN_NOT_COMPARE-Cannot be compared

Table 6-135 Data structure description of field **content_compare_details**

Parameter	Type	Description
source_db_name	String	Source database name.
content_compare_detail	Array of objects	Value comparison details of the tables in the database. For details, see Table 6-136 .

Parameter	Type	Description
content_compare_detail_count	Integer	Total number of value comparison results.
content_uncompare_detail	Array of objects	Value comparison details of tables in the database (tables that cannot be compared). For details, see Table 6-136 .
content_uncompare_detail_count	Integer	Total number of value comparison results (tables that cannot be compared).

Table 6-136 Data structure description of fields **content_compare_detail** and **content_uncompare_detail**

Parameter	Type	Description
source_db_name	String	Source database name.
target_db_name	String	Destination database name.
source_table_name	String	Source database name.
target_table_name	String	Name of a table in the destination database.
source_row_num	Integer	Number of rows in the table of the source database.
target_row_num	Integer	Number of rows in the table of the destination database.
diff_row_num	Integer	Difference between the tables in the source and destination databases.
line_compare_result	String	Row comparison result. Values: <ul style="list-style-type: none"> ● CONSISTENT: consistent ● INCONSISTENT: inconsistent ● COMPARING: The comparison is in progress ● WAITING_FOR_COMPARISON: waiting for comparison ● FAILED_TO_COMPARE: comparison failure ● TARGET_DB_NOT_EXIT-Destination database does not exist ● CAN_NOT_COMPARE-Cannot be compared

Parameter	Type	Description
content_compare_result	String	Value comparison result. Values: <ul style="list-style-type: none"> ● CONSISTENT: consistent ● INCONSISTENT: inconsistent ● COMPARING: The comparison is in progress ● WAITING_FOR_COMPARISON: waiting for comparison ● FAILED_TO_COMPARE: comparison failure ● TARGET_DB_NOT_EXIST-Destination database does not exist ● CAN_NOT_COMPARE-Cannot be compared
message	String	Provides additional information.

Table 6-137 Data structure description of field **content_compare_diffs**

Parameter	Type	Description
source_db_name	String	Source database name.
source_table_name	String	Table name of the source database.
content_compare_diff	Array of objects	The value comparison results are different. For details, see Table 6-138 .
content_compare_diff_count	Integer	Total number of differences in the value comparison result.

Table 6-138 Data structure description of field **content_compare_diff**

Parameter	Type	Description
target_select_sql	String	Query the SQL statements of the destination database.
source_select_sql	String	Query the SQL statements of the source database.
source_key_value	Array of strings	Key value list of the source database.
target_key_value	Array of strings	Key value list of the destination database.

Table 6-139 Data structure description of field **compare_task_list_results**

Parameter	Type	Description
compare_task_list	Array of objects	List of comparison tasks. For details, see Table 6-140 .
compare_task_list_count	Integer	Total number of comparison tasks.
error_msg	String	Error message.
error_code	String	Error code.

Table 6-140 Data structure description of field **compare_task_list**

Parameter	Type	Description
compare_task_id	String	ID of a comparison task.
compare_type	String	Type of a comparison task.
compare_task_status	String	Status of a comparison task. Values: <ul style="list-style-type: none">● RUNNING: The instance is running.● WAITING_FOR_RUNNING: waiting to be started● SUCCESSFUL: complete● FAILED: The migration task failed.● CANCELLED: canceled● TIMEOUT_INTERRUPT: timeout interrupt● FULL_DOING: Full verification is in progress● INCRE_DOING: incremental verification in progress
create_time	String	Comparison start time
end_time	String	Comparison end time

Example Request

Request for querying the comparison result:

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/query-compare-result
```

```
{
  "job_id": "94800607-3cd8-4f7d-a340-63a10f8jb502",
  "object_level_compare_id": "dc1683d9-bdf2-4be9-967f-6ef0953369bc",
  "line_compare_id": "d45d569d-0a80-4cef-a412-da2a3bcd9b7",
  "content_compare_id": "79e206e6-13eb-4556-8cd5-c994c9cbd4e6",
  "current_page": 1,
```

```
"per_page" : 2  
}
```

Example Response

Status code: 200

OK

```
{  
  "job_id" : "c6e65e6a-de99-4112-9697-7c1923ajb201",  
  "object_level_compare_results" : {  
    "compare_task_id" : "dc1683d9-bdf2-4be9-967f-6ef0953369bc",  
    "object_compare_overview" : [ {  
      "object_type" : "DB",  
      "object_compare_result" : "CONSISTENT",  
      "source_count" : 1,  
      "target_count" : 1,  
      "diff_count" : 0  
    }, {  
      "object_type" : "INDEX",  
      "object_compare_result" : "CONSISTENT",  
      "source_count" : 12,  
      "target_count" : 12,  
      "diff_count" : 0  
    }, {  
      "object_type" : "TABLE",  
      "object_compare_result" : "CONSISTENT",  
      "source_count" : 6,  
      "target_count" : 6,  
      "diff_count" : 0  
    }  
  ],  
  "object_compare_details" : {  
    "TABLE" : [ {  
      "source_db_name" : "may_5",  
      "target_db_name" : "may_5",  
      "source_db_value" : "add_table_name_0",  
      "target_db_value" : "add_table_name_0"  
    }, {  
      "source_db_name" : "may_5",  
      "target_db_name" : "may_5",  
      "source_db_value" : "table_name_3",  
      "target_db_value" : "table_name_3"  
    }  
  ],  
    "INDEX" : [ {  
      "source_db_name" : "may_5",  
      "target_db_name" : "may_5",  
      "source_db_value" : "add_table_name_0`.PRIMARY",  
      "target_db_value" : "add_table_name_0`.PRIMARY"  
    }, {  
      "source_db_name" : "may_5",  
      "target_db_name" : "may_5",  
      "source_db_value" : "add_table_name_0`.bak0`",  
      "target_db_value" : "add_table_name_0`.bak0`"  
    }  
  ],  
    "DB" : [ {  
      "source_db_name" : "may_5",  
      "target_db_name" : "may_5",  
      "source_db_value" : "may_5",  
      "target_db_value" : "may_5"  
    }  
  ]  
},  
  "line_compare_results" : {  
    "compare_task_id" : "d45d569d-0a80-4cef-a412-da2a3bccd9b7",  
    "line_compare_overview" : [ {  
      "source_db_name" : "may_5",  
      "target_db_name" : "may_5",  
      "line_compare_result" : "INCONSISTENT"  
    }  
  ]  
}
```

```
    }],
    "line_compare_overview_count" : 1,
    "line_compare_details" : [ {
      "source_db_name" : "may_5",
      "line_compare_detail" : [ {
        "source_table_name" : "table_name_0",
        "source_row_num" : 0,
        "target_table_name" : "table_name_0",
        "target_row_num" : 1,
        "diff_row_num" : 1,
        "line_compare_result" : "INCONSISTENT"
      } ],
      "source_table_name" : "table_name_1",
      "source_row_num" : 0,
      "target_table_name" : "table_name_1",
      "target_row_num" : 0,
      "diff_row_num" : 0,
      "line_compare_result" : "CONSISTENT"
    } ],
    "line_compare_detail_count" : 2
  } ]
},
"content_compare_results" : {
  "compare_task_id" : "79e206e6-13eb-4556-8cd5-c994c9cbd4e6",
  "content_compare_overview" : [ {
    "source_db_name" : "may_5",
    "target_db_name" : "may_5",
    "content_compare_result" : "INCONSISTENT"
  } ],
  "content_compare_overview_count" : 1,
  "content_compare_details" : [ {
    "source_db_name" : "may_5",
    "content_compare_detail" : [ {
      "source_db_name" : "may_5",
      "target_db_name" : "may_5",
      "source_table_name" : "table_name_0",
      "target_table_name" : "table_name_0",
      "source_row_num" : 0,
      "target_row_num" : 1,
      "diff_row_num" : 1,
      "line_compare_result" : "INCONSISTENT",
      "content_compare_result" : "INCONSISTENT"
    } ],
    "source_db_name" : "may_5",
    "target_db_name" : "may_5",
    "source_table_name" : "table_name_1",
    "target_table_name" : "table_name_1",
    "source_row_num" : 0,
    "target_row_num" : 0,
    "diff_row_num" : 0,
    "line_compare_result" : "CONSISTENT",
    "content_compare_result" : "CONSISTENT"
  } ],
  "content_compare_detail_count" : 2,
  "content_uncompare_detail" : [ ],
  "content_uncompare_detail_count" : 0
} ],
"content_compare_diffs" : [ {
  "source_db_name" : "may_5",
  "source_table_name" : "table_name_0",
  "content_compare_diff" : [ {
    "target_key_value" : [ "5" ],
    "target_select_sql" : "select * from may_5.table_name_0 where id = 5"
  } ],
  "content_compare_diff_count" : 1
} ]
},
"compare_task_list_results" : {
  "compare_task_list_count" : 8,
```

```
"compare_task_list" : [ {
  "compare_task_id" : "08cad1f8-9de2-42fa-b8ce-6c36daf730f6",
  "compare_type" : "contents",
  "compare_task_status" : "SUCCESSFUL",
  "create_time" : "1607766111833",
  "end_time" : "1607766310812"
}, {
  "compare_task_id" : "dc1683d9-bdf2-4be9-967f-6ef0953369bc",
  "compare_type" : "object_comparison",
  "compare_task_status" : "SUCCESSFUL",
  "create_time" : "1607766110535",
  "end_time" : "1607766127373"
}
]
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.19 Querying Tasks of a Tenant

Function

This API is used to query tenant tasks by engine type, network type, task status, task name, or task ID.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

URI

POST /v3/{project_id}/jobs

Table 6-141 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-142 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 6-143 Request body parameters

Parameter	Mandatory	Type	Description
cur_page	Yes	Integer	Current page. Set the value to 0 to obtain all items. If per_page is set to 0 , cur_page can only be set to 0 or 1 . Default value: 1
per_page	Yes	Integer	Number of records on each page. If this parameter is set to 0 , cur_page can only be set to 0 or 1 . <ul style="list-style-type: none"> • Default value: 10 • Minimum value: 0 • Maximum value: 100
db_use_type	Yes	String	Migration scenario. The value can be migration (real-time migration), sync (real-time synchronization), or cloudDataGuard (real-time disaster recovery). Values: <ul style="list-style-type: none"> • migration • sync • cloudDataGuard

Parameter	Mandatory	Type	Description
engine_type	No	String	<p>Engine type of a DRS task. Default value: mysql</p> <p>Values:</p> <ul style="list-style-type: none"> • mysql: used for migration and synchronization from MySQL to MySQL • mongodb: used for migration from MongoDB to DDS • cloudDataGuard-mysql: used for DR from MySQL to MySQL • gaussdbv5: used for GaussDB synchronization • mysql-to-kafka: used for synchronization from MySQL to Kafka • taurus-to-kafka: used for synchronization from GaussDB(for MySQL) to Kafka • gaussdbv5ha-to-kafka: used for synchronization from GaussDB primary/standby to Kafka • postgresql: used for synchronization from PostgreSQL to PostgreSQL <p>For details, see Engine Types.</p>
enterprise_project_id	No	String	Enterprise project. If no value is specified, this parameter is set to null . This parameter cannot be left blank. When enterprise project is enabled, this parameter can be set.
name	No	String	Name or ID. You can enter a maximum of 100 task IDs separated by commas (,).
net_type	No	String	<p>Network type. Values:</p> <ul style="list-style-type: none"> • vpn • vpc • eip
service_name	No	String	Service name.

Parameter	Mandatory	Type	Description
status	No	String	<p>Task status.</p> <ul style="list-style-type: none"> ● CREATING: The task is being created. ● CREATE_FAILED: The task fails to be created. ● CONFIGURATION: The task is being configured. ● STARTJOBING: The task is being started. ● WAITING_FOR_START: The task is waiting to be started. ● START_JOB_FAILED: The task fails to be started. ● PAUSING: The task is paused. ● FULL_TRANSFER_STARTED: Full migration or synchronization starts. Initialization is in progress in the DR scenario. ● FULL_TRANSFER_FAILED: Full migration or synchronization fails. Initialization fails in the DR scenario. ● FULL_TRANSFER_COMPLETE: Full migration or synchronization is complete. Initialization is complete in the DR scenario. ● INCRE_TRANSFER_STARTED: Incremental migration or synchronization starts. The DR task is in progress. ● INCRE_TRANSFER_FAILED: Incremental migration or synchronization fails. A DR exception occurs. ● RELEASE_RESOURCE_STARTED: The task is being stopped. ● RELEASE_RESOURCE_FAILED: The task fails to be stopped.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● RELEASE_RESOURCE_COMPLETE: The task is stopped. ● REBUILD_NODE_STARTED: The task is being recovered. ● REBUILD_NODE_FAILED: The task fails to be recovered. ● CHANGE_JOB_STARTED: The task is being changed. ● CHANGE_JOB_FAILED: The task fails to be changed. ● DELETED: The task is deleted. ● CHILD_TRANSFER_STARTING: The subtask is being started. ● CHILD_TRANSFER_STARTED: The subtask is being migrated. ● CHILD_TRANSFER_COMPLETE: The subtask migration is complete. ● CHILD_TRANSFER_FAILED: The subtask fails to be migrated. ● RELEASE_CHILD_TRANSFER_STARTED: The subtask is being stopped. ● RELEASE_CHILD_TRANSFER_COMPLETE: The subtask is stopped. ● NODE_UPGRADE_START: The upgrade starts. ● NODE_UPGRADE_COMPLETE: The upgrade is complete. ● NODE_UPGRADE_FAILED: The upgrade fails. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CREATING ● CREATE_FAILED ● CONFIGURATION ● STARTJOBING ● WAITING_FOR_START

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • START_JOB_FAILED • PAUSING • FULL_TRANSFER_STARTED • FULL_TRANSFER_FAILED • FULL_TRANSFER_COMPLETE • INCRE_TRANSFER_STARTED • INCRE_TRANSFER_FAILED • RELEASE_RESOURCE_STARTED • RELEASE_RESOURCE_FAILED • RELEASE_RESOURCE_COMPLETE • REBUILD_NODE_STARTED • REBUILD_NODE_FAILED • CHANGE_JOB_STARTED • CHANGE_JOB_FAILED • DELETED • CHILD_TRANSFER_STARTING • CHILD_TRANSFER_STARTED • CHILD_TRANSFER_COMPLETE • CHILD_TRANSFER_FAILED • RELEASE_CHILD_TRANSFER_STARTED • RELEASE_CHILD_TRANSFER_COMPLETE • NODE_UPGRADE_START • NODE_UPGRADE_COMPLETE • NODE_UPGRADE_FAILED
tags	No	Map<String,String>	Tags. For details, see Table 6-7 .

Parameter	Mandatory	Type	Description
instance_ids	No	Array of strings	List of database instance IDs. The default value is null , indicating that database instance IDs are not used for task filtering.
instance_ip	No	String	IP address of the database instance bound to the DRS. The default value is "", indicating that the IP address of the database instance bound to the DRS is not used for task filtering.

Response Parameters

Status code: 200

Table 6-144 Response body parameters

Parameter	Type	Description
total_record	Integer	Total number of tasks
jobs	Array of objects	Task details. For details, see Table 6-145 .

Table 6-145 Data structure description of field **jobs**

Parameter	Type	Description
id	String	Task ID.
name	String	Task name.

Parameter	Type	Description
status	String	<p>Task status.</p> <ul style="list-style-type: none"> ● CREATING: The task is being created. ● CREATE_FAILED: The task fails to be created. ● CONFIGURATION: The task is being configured. ● STARTJOBING: The task is being started. ● WAITING_FOR_START: The task is waiting to be started. ● START_JOB_FAILED: The task fails to be started. ● PAUSING: The task is paused. ● FULL_TRANSFER_STARTED: Full migration or synchronization starts. Initialization is in progress in the DR scenario. ● FULL_TRANSFER_FAILED: Full migration or synchronization fails. Initialization fails in the DR scenario. ● FULL_TRANSFER_COMPLETE: Full migration or synchronization is complete. Initialization is complete in the DR scenario. ● INCRE_TRANSFER_STARTED: Incremental migration or synchronization starts. The DR task is in progress. ● INCRE_TRANSFER_FAILED: Incremental migration or synchronization fails. A DR exception occurs. ● RELEASE_RESOURCE_STARTED: The task is being stopped. ● RELEASE_RESOURCE_FAILED: The task fails to be stopped. ● RELEASE_RESOURCE_COMPLETE: The task is stopped. ● REBUILD_NODE_STARTED: The task is being recovered. ● REBUILD_NODE_FAILED: The task fails to be recovered. ● CHANGE_JOB_STARTED: The task is being changed. ● CHANGE_JOB_FAILED: The task fails to be changed. ● DELETED: The task is deleted. ● CHILD_TRANSFER_STARTING: The subtask is being started.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● CHILD_TRANSFER_STARTED: The subtask is being migrated. ● CHILD_TRANSFER_COMPLETE: The subtask migration is complete. ● CHILD_TRANSFER_FAILED: The subtask fails to be migrated. ● RELEASE_CHILD_TRANSFER_STARTED: The subtask is being stopped. ● RELEASE_CHILD_TRANSFER_COMPLETE: The subtask is stopped. ● NODE_UPGRADE_START: The upgrade starts. ● NODE_UPGRADE_COMPLETE: The upgrade is complete. ● NODE_UPGRADE_FAILED: The upgrade fails. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CREATING ● CREATE_FAILED ● CONFIGURATION ● STARTJOBING ● WAITING_FOR_START ● START_JOB_FAILED ● PAUSING ● FULL_TRANSFER_STARTED ● FULL_TRANSFER_FAILED ● FULL_TRANSFER_COMPLETE ● INCRE_TRANSFER_STARTED ● INCRE_TRANSFER_FAILED ● RELEASE_RESOURCE_STARTED ● RELEASE_RESOURCE_FAILED ● RELEASE_RESOURCE_COMPLETE ● REBUILD_NODE_STARTED ● REBUILD_NODE_FAILED ● CHANGE_JOB_STARTED ● CHANGE_JOB_FAILED ● DELETED ● CHILD_TRANSFER_STARTING ● CHILD_TRANSFER_STARTED ● CHILD_TRANSFER_COMPLETE ● CHILD_TRANSFER_FAILED

Parameter	Type	Description
		<ul style="list-style-type: none"> ● RELEASE_CHILD_TRANSFER_STARTED ● RELEASE_CHILD_TRANSFER_COMPLETE ● NODE_UPGRADE_START ● NODE_UPGRADE_COMPLETE ● NODE_UPGRADE_FAILED
description	String	Task description.
create_time	String	Time when a task is created
engine_type	String	<p>Engine type of a DRS task. Values:</p> <ul style="list-style-type: none"> ● mysql: used for migration and synchronization from MySQL to MySQL ● mongodb: used for migration from MongoDB to DDS ● cloudDataGuard-mysql: used for DR from MySQL to MySQL ● gaussdbv5: used for GaussDB synchronization ● mysql-to-kafka: used for synchronization from MySQL to Kafka ● taurus-to-kafka: used for synchronization from GaussDB(for MySQL) to Kafka ● gaussdbv5ha-to-kafka: used for synchronization from GaussDB primary/standby to Kafka ● postgresql: used for synchronization from PostgreSQL to PostgreSQL <p>For details, see Engine Types.</p>
net_type	String	<p>Network type. Values:</p> <ul style="list-style-type: none"> ● vpn ● vpc ● eip
billing_tag	Boolean	Billing tag.
job_direction	String	<p>Task direction. Values:</p> <ul style="list-style-type: none"> ● up: to-the-cloud scenarios and the current cloud is the standby cloud in the DR. ● down: out-of-cloud scenarios and the current cloud is the active cloud in the DR. ● non-dbs: self-built databases.

Parameter	Type	Description
db_use_type	String	Task scenario. Values: <ul style="list-style-type: none"> ● migration: real-time migration. ● sync: real-time synchronization. ● cloudDataGuard: real-time disaster recovery.
task_type	String	Task mode. Values: <ul style="list-style-type: none"> ● FULL_TRANS: full migration ● FULL_INCR_TRANS: full+incremental migration ● INCR_TRANS: incremental migration
children	Array of objects	Subtask information body. For details, see Table 6-146 .
node_newFramework	Boolean	Whether the framework is a new framework.
job_action	Object	The matrix of task operation commands. For details, see Table 6-147 .

Table 6-146 Data structure description of field **children**

Parameter	Type	Description
billing_tag	Boolean	Billing tag.
create_time	String	Time when a task is created
db_use_type	String	Replication scenario. Values: <ul style="list-style-type: none"> ● migration: real-time migration. ● sync: real-time synchronization. ● cloudDataGuard: real-time disaster recovery.
description	String	Task description.

Parameter	Type	Description
engine_type	String	Engine type of a DRS task. Values: <ul style="list-style-type: none">● mysql: used for migration and synchronization from MySQL to MySQL● mongodb: used for migration from MongoDB to DDS● cloudDataGuard-mysql: used for DR from MySQL to MySQL● gaussdbv5: used for GaussDB synchronization● mysql-to-kafka: used for synchronization from MySQL to Kafka● taurus-to-kafka: used for synchronization from GaussDB(for MySQL) to Kafka● gaussdbv5ha-to-kafka: used for synchronization from GaussDB primary/standby to Kafka● postgresql: used for synchronization from PostgreSQL to PostgreSQL For details, see Engine Types .
error_msg	String	Task failure cause.
id	String	Task ID.
job_direction	String	Migration direction. Values: <ul style="list-style-type: none">● up: The current cloud is the standby cloud in the DR and to-the-cloud scenarios.● down: The current cloud is the active cloud in the DR and out-of-cloud scenarios.● non-dbs: self-built databases.
name	String	Task name.
net_type	String	Network type. Values: <ul style="list-style-type: none">● vpc● vpn● eip
node_newFramework	Boolean	New framework

Parameter	Type	Description
status	String	<p>Task status.</p> <ul style="list-style-type: none"> ● CREATING: The task is being created. ● CREATE_FAILED: The task fails to be created. ● CONFIGURATION: The task is being configured. ● STARTJOBING: The task is being started. ● WAITING_FOR_START: The task is waiting to be started. ● START_JOB_FAILED: The task fails to be started. ● PAUSING: The task is paused. ● FULL_TRANSFER_STARTED: Full migration or synchronization starts. Initialization is in progress in the DR scenario. ● FULL_TRANSFER_FAILED: Full migration or synchronization fails. Initialization fails in the DR scenario. ● FULL_TRANSFER_COMPLETE: Full migration or synchronization is complete. Initialization is complete in the DR scenario. ● INCRE_TRANSFER_STARTED: Incremental migration or synchronization starts. The DR task is in progress. ● INCRE_TRANSFER_FAILED: Incremental migration or synchronization fails. A DR exception occurs. ● RELEASE_RESOURCE_STARTED: The task is being stopped. ● RELEASE_RESOURCE_FAILED: The task fails to be stopped. ● RELEASE_RESOURCE_COMPLETE: The task is stopped. ● REBUILD_NODE_STARTED: The task is being recovered. ● REBUILD_NODE_FAILED: The task fails to be recovered. ● CHANGE_JOB_STARTED: The task is being changed. ● CHANGE_JOB_FAILED: The task fails to be changed. ● DELETED: The task is deleted. ● CHILD_TRANSFER_STARTING: The subtask is being started.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● CHILD_TRANSFER_STARTED: The subtask is being migrated. ● CHILD_TRANSFER_COMPLETE: The subtask migration is complete. ● CHILD_TRANSFER_FAILED: The subtask fails to be migrated. ● RELEASE_CHILD_TRANSFER_STARTED: The subtask is being stopped. ● RELEASE_CHILD_TRANSFER_COMPLETE: The subtask is stopped. ● NODE_UPGRADE_START: The upgrade starts. ● NODE_UPGRADE_COMPLETE: The upgrade is complete. ● NODE_UPGRADE_FAILED: The upgrade fails. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CREATING ● CREATE_FAILED ● CONFIGURATION ● STARTJOBING ● WAITING_FOR_START ● START_JOB_FAILED ● PAUSING ● FULL_TRANSFER_STARTED ● FULL_TRANSFER_FAILED ● FULL_TRANSFER_COMPLETE ● INCRE_TRANSFER_STARTED ● INCRE_TRANSFER_FAILED ● RELEASE_RESOURCE_STARTED ● RELEASE_RESOURCE_FAILED ● RELEASE_RESOURCE_COMPLETE ● REBUILD_NODE_STARTED ● REBUILD_NODE_FAILED ● CHANGE_JOB_STARTED ● CHANGE_JOB_FAILED ● DELETED ● CHILD_TRANSFER_STARTING ● CHILD_TRANSFER_STARTED ● CHILD_TRANSFER_COMPLETE ● CHILD_TRANSFER_FAILED

Parameter	Type	Description
		<ul style="list-style-type: none"> ● RELEASE_CHILD_TRANSFER_STARTED ● RELEASE_CHILD_TRANSFER_COMPLETE ● NODE_UPGRADE_START ● NODE_UPGRADE_COMPLETE ● NODE_UPGRADE_FAILED
task_type	String	Task mode. Values: <ul style="list-style-type: none"> ● FULL_TRANS: full migration ● FULL_INCR_TRANS: full+incremental migration ● INCR_TRANS: incremental migration
job_action	Object	The matrix of task operation commands. For details, see Table 6-147 .

Table 6-147 Data structure description of field **job_action**

Parameter	Type	Description
available_actions	Array of strings	<p>The collection of operation commands that can be executed for a task.</p> <p>Values:</p> <ul style="list-style-type: none"> ● CREATE: indicates the operation command for creating a task. ● CHOOSE_OBJECT: indicates the operation command for selecting an object. ● PRE_CHECK: indicates the operation command for pre-check. ● CHANGE_MODE: indicates the operation command for changing the task mode. ● FREE_RESOURCE: indicates the operation command for releasing resources. ● MODIFY_DB_CONFIG: indicates the operation command for modifying database configurations. ● RESET_DB_PWD: indicates the operation command for resetting the password of the source or destination database. ● MODIFY_CONFIGURATION: indicates the operation command for modifying task configurations. ● PAUSE: indicates the operation command for pausing a task. ● START: indicates the operation command for starting a task. ● CHANGE: indicates the operation command for modifying a task. ● RETRY: indicates the operation command for retrying a task. ● RESET: indicates the operation command for resetting a task. ● DELETE: indicates the operation command for deleting a task. ● QUERY_PRE_CHECK: indicates the operation command for performing a pre-check. ● SWITCH_OVER: indicates the operation command for performing a DR switchover. ● START_INCR: indicates the operation command for starting an incremental Cassandra task.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● MODIFY_TASK_NUMBER: indicates the operation command for modifying the number of Cassandra threads. ● CONTINUE_JOB: indicates the operation command for resuming a failed or stopped task from Oracle to GaussDB distributed. ● STOP_JOB: indicates the operation command for stopping a task from Oracle to GaussDB distributed. ● CONTINUE_CAPTURE: indicates the operation command for starting data capture for a task from Oracle to GaussDB distributed. ● STOP_CAPTURE: indicates the operation command for stopping data capture for a task from Oracle to GaussDB distributed. ● CONTINUE_APPLY: indicates the operation command for starting data replay for a task from Oracle to GaussDB distributed. ● STOP_APPLY: indicates the operation command for stopping data replay for a task from Oracle to GaussDB distributed. ● PAY_ORDER: indicates the operation command for paying a yearly/monthly order. ● UNSUBSCRIBE: indicates the operation command for unsubscribing from a yearly/monthly subscription. ● TO_PERIOD: indicates the operation command for changing the billing mode from pay-per-use to yearly/monthly. ● TO_RENEW: indicates the operation command for renewing a yearly/monthly subscription. ● ORDER_INFO: indicates the operation command for querying order details. ● CHANGE_FLAVOR: indicates the operation command for changing task specifications. ● CLONE: indicates the operation command for cloning a task.

Parameter	Type	Description
unavailable_actions	Array of strings	<p>The collection of operation commands that cannot be executed for a task.</p> <p>Values:</p> <ul style="list-style-type: none"> ● CREATE: indicates the operation command for creating a task. ● CHOOSE_OBJECT: indicates the operation command for selecting an object. ● PRE_CHECK: indicates the operation command for pre-check. ● CHANGE_MODE: indicates the operation command for changing the task mode. ● FREE_RESOURCE: indicates the operation command for releasing resources. ● MODIFY_DB_CONFIG: indicates the operation command for modifying database configurations. ● RESET_DB_PWD: indicates the operation command for resetting the password of the source or destination database. ● MODIFY_CONFIGURATION: indicates the operation command for modifying task configurations. ● PAUSE: indicates the operation command for pausing a task. ● START: indicates the operation command for starting a task. ● CHANGE: indicates the operation command for modifying a task. ● RETRY: indicates the operation command for retrying a task. ● RESET: indicates the operation command for resetting a task. ● DELETE: indicates the operation command for deleting a task. ● QUERY_PRE_CHECK: indicates the operation command for performing a pre-check. ● SWITCH_OVER: indicates the operation command for performing a DR switchover. ● START_INCR: indicates the operation command for starting an incremental Cassandra task. ● MODIFY_TASK_NUMBER: indicates the operation command for modifying the number of Cassandra threads.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● CONTINUE_JOB: indicates the operation command for resuming a failed or stopped task from Oracle to GaussDB distributed. ● STOP_JOB: indicates the operation command for stopping a task from Oracle to GaussDB distributed. ● CONTINUE_CAPTURE: indicates the operation command for starting data capture for a task from Oracle to GaussDB distributed. ● STOP_CAPTURE: indicates the operation command for stopping data capture for a task from Oracle to GaussDB distributed. ● CONTINUE_APPLY: indicates the operation command for starting data replay for a task from Oracle to GaussDB distributed. ● STOP_APPLY: indicates the operation command for stopping data replay for a task from Oracle to GaussDB distributed. ● PAY_ORDER: indicates the operation command for paying a yearly/monthly order. ● UNSUBSCRIBE: indicates the operation command for unsubscribing from a yearly/monthly subscription. ● TO_PERIOD: indicates the operation command for changing the billing mode from pay-per-use to yearly/monthly. ● TO_RENEW: indicates the operation command for renewing a yearly/monthly subscription. ● ORDER_INFO: indicates the operation command for querying order details. ● CHANGE_FLAVOR: indicates the operation command for changing task specifications. ● CLONE: indicates the operation command for cloning a task.
current_action	String	<p>The current operation. Values:</p> <ul style="list-style-type: none"> ● SWITCH_OVER: indicates that a DR switchover is in progress. ● STOP_JOB: indicates that a task is being paused.

Example Request

- Example of querying the real-time synchronization task list:
`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs`

```
{
  "cur_page": 1,
  "db_use_type": "sync",
  "engine_type": "",
  "name": "",
  "net_type": "",
  "per_page": 5,
  "status": ""
}
```
- Example of querying the real-time migration task list:
`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs`

```
{
  "cur_page": 1,
  "db_use_type": "migration",
  "engine_type": "",
  "name": "",
  "net_type": "",
  "per_page": 5,
  "status": ""
}
```
- Example of querying the real-time synchronization tasks based on the database instance ID:
`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs`

```
{
  "cur_page": 1,
  "db_use_type": "sync",
  "engine_type": "",
  "enterprise_project_id": "",
  "name": "",
  "net_type": "",
  "per_page": 5,
  "instance_ids": [ "id1", "id2" ],
  "status": ""
}
```
- Example of querying the real-time synchronization tasks based on the database instance IP address:
`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs`

```
{
  "cur_page": 1,
  "db_use_type": "sync",
  "engine_type": "",
  "enterprise_project_id": "",
  "name": "",
  "net_type": "",
  "per_page": 5,
  "instance_ip": "127.0.0.1",
  "status": ""
}
```
- Querying the real-time synchronization task list using multiple task IDs
`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs`

```
{
  "cur_page": 1,
  "db_use_type": "sync",
  "engine_type": "",
  "name": "bee869bc-15c0-4b3b-a34b-bf0d5efj201,c2a61a77-6e55-4cd8-8be1-a562cc6jb201",
  "net_type": "",
  "per_page": 100,
}
```

```
"status": ""  
}
```

Example Response

Status code: 200

OK

- Example response for querying the real-time migration tasks:

```
{  
  "jobs" : [ {  
    "id" : "24834eb6-be30-464e-a299-f7aa730jb101",  
    "name" : "DRS-3999-lws",  
    "status" : "INCRE_TRANSFER_FAILED",  
    "description" : "",  
    "create_time" : "2020-12-21 10:57:49",  
    "error_msg" : "service LOGMANAGER failed, cause by: Unable to connect to DBMS: url=jdbc:mysql://  
172.22.74.56:3306?  
useUnicode=true&allowLoadLocalInfile=false&characterEncoding=UTF-8&connectTimeout=5000&useS  
SL=false&allowPublicKeyRetrieval=true&verifyServerCertificate=false&serverTimezone=UTC user=root",  
    "engine_type" : "mysql",  
    "net_type" : "eip",  
    "billing_tag" : false,  
    "job_direction" : "up",  
    "db_use_type" : "migration",  
    "task_type" : "FULL_INCR_TRANS",  
    "node_newFramework" : false  
    "job_action":{  
      "available_actions": [  
        "CREATE",  
        "CHOOSE_OBJECT",  
        "PRE_CHECK",  
        "CHANGE_MODE",  
        "FREE_RESOURCE",  
        "MODIFY_DB_CONFIG",  
        "RESET_DB_PWD",  
        "MODIFY_CONFIGURATION",  
        "PAUSE",  
        "RETRY",  
        "RESET",  
      ],  
      "unavailable_actions": [  
        "START",  
        "CHANGE",  
        "DELETE",  
        "QUERY_PRE_CHECK",  
        "SWITCH_OVER",  
        "MODIFY_SPECIFICATION_ID",  
        "START_INCR",  
        "MODIFY_TASK_NUMBER",  
        "CONTINUE_JOB",  
        "STOP_JOB",  
        "CONTINUE_CAPTURE",  
        "STOP_CAPTURE",  
        "CONTINUE_APPLY",  
        "API_CONFIGURATION_ACTION",  
        "STOP_APPLY",  
        "PAY_ORDER",  
        "UNSUBSCRIBE",  
        "TO_PERIOD",  
        "TO_RENEW",  
        "ORDER_INFO",  
        "CHANGE_FLAVOR",  
        "CLONE"  
      ]  
    }  
  }  
}, {
```

```
"id" : "140b5236-88ad-43c8-811c-1268453jb101",
"name" : "DRS-0042-linxiaolu",
"status" : "CONFIGURATION",
"description" : "",
"create_time" : "2020-12-19 16:23:24",
"engine_type" : "mysql",
"net_type" : "eip",
"billing_tag" : false,
"job_direction" : "up",
"db_use_type" : "migration",
"task_type" : "FULL_INCR_TRANS",
"node_newFramework" : false
"job_action": {
  "available_actions": [
    "CREATE",
    "START",
    "CHANGE",
    "CHOOSE_OBJECT",
    "PRE_CHECK",
    "CHANGE_MODE",
    "FREE_RESOURCE",
    "MODIFY_DB_CONFIG",
    "API_CONFIGURATION_ACTION"
  ],
  "unavailable_actions": [
    "RETRY",
    "RESET",
    "DELETE",
    "QUERY_PRE_CHECK",
    "SWITCH_OVER",
    "MODIFY_SPECIFICATION_ID",
    "RESET_DB_PWD",
    "MODIFY_CONFIGURATION",
    "PAUSE",
    "JUMP_RETRY",
    "START_INCR",
    "MODIFY_TASK_NUMBER",
    "CONTINUE_JOB",
    "STOP_JOB",
    "CONTINUE_CAPTURE",
    "STOP_CAPTURE",
    "CONTINUE_APPLY",
    "STOP_APPLY",
    "PAY_ORDER",
    "UNSUBSCRIBE",
    "TO_PERIOD",
    "TO_RENEW",
    "ORDER_INFO",
    "CHANGE_FLAVOR",
    "CLONE"
  ]
}
}, {
  "id" : "7f8e6f74-72d2-4ddd-bb8f-6c41397jb101",
  "name" : "DRS-0796",
  "status" : "RELEASE_RESOURCE_COMPLETE",
  "description" : "",
  "create_time" : "2020-12-18 10:48:11",
  "engine_type" : "mysql",
  "net_type" : "eip",
  "billing_tag" : false,
  "job_direction" : "non-dbs",
  "db_use_type" : "migration",
  "task_type" : "FULL_INCR_TRANS",
  "node_newFramework" : false
  "job_action": {
    "available_actions": [
      "CREATE",
      "DELETE",
```

```
"PRE_CHECK",
"CHANGE_MODE",
"MODIFY_DB_CONFIG",
"CLONE"
],
"unavailable_actions": [
"FREE_RESOURCE",
"START",
"CHANGE",
"CHOOSE_OBJECT",
"RETRY",
"RESET",
"QUERY_PRE_CHECK",
"SWITCH_OVER",
"MODIFY_SPECIFICATION_ID",
"RESET_DB_PWD",
"MODIFY_CONFIGURATION",
"PAUSE",
"JUMP_RETRY",
"START_INCR",
"MODIFY_TASK_NUMBER",
"CONTINUE_JOB",
"STOP_JOB",
"CONTINUE_CAPTURE",
"STOP_CAPTURE",
"CONTINUE_APPLY",
"STOP_APPLY",
"PAY_ORDER",
"UNSUBSCRIBE",
"TO_PERIOD",
"TO_RENEW",
"ORDER_INFO",
"CHANGE_FLAVOR"
]
}
}, {
"id" : "14d88eeb-ee7e-4d30-a46e-a5ec8eajb101",
"name" : "masj-mysql_migration_down-1",
"status" : "INCRE_TRANSFER_STARTED",
"description": "[using] api test 2\n1. This API is used to configure the source and destination database information. Before selecting a table, you must perform this operation. \n2. If the description of a task in the configuration is successfully modified, 202 success is returned. \n3. If the description of a task in an incremental migration fails to be modified, 202 failed DRS.M01504\nAnother operation is being performed on the migration task or the migration task is abnormal. Try again later./",
"create_time" : "2020-12-15 15:43:02",
"engine_type" : "mysql",
"net_type" : "eip",
"billing_tag" : true,
"job_direction" : "down",
"db_use_type" : "migration",
"task_type" : "FULL_INCR_TRANS",
"node_newFramework" : false
"job_action":{
"available_actions": [
"CREATE",
"CHOOSE_OBJECT",
"PRE_CHECK",
"CHANGE_MODE",
"FREE_RESOURCE",
"MODIFY_DB_CONFIG",
"RESET_DB_PWD",
"MODIFY_CONFIGURATION",
"PAUSE",
],
"unavailable_actions": [
"START",
"RETRY",
"RESET",
"CHANGE",
```

```
"DELETE",
"QUERY_PRE_CHECK",
"SWITCH_OVER",
"MODIFY_SPECIFICATION_ID",
"START_INCR",
"MODIFY_TASK_NUMBER",
"CONTINUE_JOB",
"STOP_JOB",
"CONTINUE_CAPTURE",
"STOP_CAPTURE",
"CONTINUE_APPLY",
"API_CONFIGURATION_ACTION",
"STOP_APPLY",
"PAY_ORDER",
"UNSUBSCRIBE",
"TO_PERIOD",
"TO_RENEW",
"ORDER_INFO",
"CHANGE_FLAVOR",
"CLONE"
]
}
}, {
  "id": "d54691d2-f105-434d-a75d-809b017jb101",
  "name": "masj-2-mysql_migration_down",
  "status": "CONFIGURATION",
  "description": "[using] api test 2\n1. This API is used to configure the source and destination database information. Before selecting a table, you must perform this operation. \n2. If the description of a task in the configuration is successfully modified, 202 success is returned. \n3. If the description of a task in an incremental migration fails to be modified, 202 failed DRS.M01504\nAnother operation is being performed on the migration task or the migration task is abnormal. Try again later./",
  "create_time": "2020-12-14 21:39:07",
  "engine_type": "mysql",
  "net_type": "eip",
  "billing_tag": false,
  "job_direction": "down",
  "db_use_type": "migration",
  "task_type": "FULL_INCR_TRANS",
  "node_newFramework": false
  "job_action": {
    "available_actions": [
      "CREATE",
      "START",
      "CHANGE",
      "CHOOSE_OBJECT",
      "PRE_CHECK",
      "CHANGE_MODE",
      "FREE_RESOURCE",
      "MODIFY_DB_CONFIG",
      "API_CONFIGURATION_ACTION"
    ],
    "unavailable_actions": [
      "RETRY",
      "RESET",
      "DELETE",
      "QUERY_PRE_CHECK",
      "SWITCH_OVER",
      "MODIFY_SPECIFICATION_ID",
      "RESET_DB_PWD",
      "MODIFY_CONFIGURATION",
      "PAUSE",
      "JUMP_RETRY",
      "START_INCR",
      "MODIFY_TASK_NUMBER",
      "CONTINUE_JOB",
      "STOP_JOB",
      "CONTINUE_CAPTURE",
      "STOP_CAPTURE",
      "CONTINUE_APPLY",
```

```
        "STOP_APPLY",
        "PAY_ORDER",
        "UNSUBSCRIBE",
        "TO_PERIOD",
        "TO_RENEW",
        "ORDER_INFO",
        "CHANGE_FLAVOR",
        "CLONE"
    ]
}
}],
"total_record" : 7
}
```

- Example response for querying the real-time synchronization tasks:

```
{
  "jobs" : [ {
    "id" : "7994aac9-0a15-4fdb-bcc5-667f088jb20b",
    "name" : "DRS-8200",
    "status" : "CREATE_FAILED",
    "description" : "",
    "create_time" : "2020-12-21 18:02:36",
    "error_msg" : "system error!",
    "engine_type" : "oracle-to-mysql",
    "net_type" : "eip",
    "billing_tag" : false,
    "job_direction" : "up",
    "db_use_type" : "sync",
    "task_type" : "FULL_INCR_TRANS",
    "node_newFramework" : false
    "job_action": {
      "available_actions": [
        "CREATE",
        "DELETE",
        "START",
        "CHANGE",
        "CHOOSE_OBJECT",
        "PRE_CHECK",
        "CHANGE_MODE",
        "MODIFY_DB_CONFIG",
        "API_CONFIGURATION_ACTION"
      ],
      "unavailable_actions": [
        "FREE_RESOURCE",
        "RETRY",
        "RESET",
        "QUERY_PRE_CHECK",
        "SWITCH_OVER",
        "MODIFY_SPECIFICATION_ID",
        "RESET_DB_PWD",
        "MODIFY_CONFIGURATION",
        "PAUSE",
        "JUMP_RETRY",
        "START_INCR",
        "MODIFY_TASK_NUMBER",
        "CONTINUE_JOB",
        "STOP_JOB",
        "CONTINUE_CAPTURE",
        "STOP_CAPTURE",
        "CONTINUE_APPLY",
        "STOP_APPLY",
        "PAY_ORDER",
        "UNSUBSCRIBE",
        "TO_PERIOD",
        "TO_RENEW",
        "ORDER_INFO",
        "CHANGE_FLAVOR",
        "CLONE"
      ]
    }
  }
]
```

```
}, {
  "id": "f463331d-e079-4689-bbef-4553202jb20b",
  "name": "DRS-1285",
  "status": "CONFIGURATION",
  "description": "",
  "create_time": "2020-12-21 17:19:38",
  "engine_type": "oracle-to-mysql",
  "net_type": "eip",
  "billing_tag": false,
  "job_direction": "up",
  "db_use_type": "sync",
  "task_type": "FULL_INCR_TRANS",
  "node_newFramework": false
  "job_action": {
    "available_actions": [
      "CREATE",
      "START",
      "CHANGE",
      "CHOOSE_OBJECT",
      "PRE_CHECK",
      "CHANGE_MODE",
      "FREE_RESOURCE",
      "MODIFY_DB_CONFIG",
      "API_CONFIGURATION_ACTION"
    ],
    "unavailable_actions": [
      "RETRY",
      "RESET",
      "DELETE",
      "QUERY_PRE_CHECK",
      "SWITCH_OVER",
      "MODIFY_SPECIFICATION_ID",
      "RESET_DB_PWD",
      "MODIFY_CONFIGURATION",
      "PAUSE",
      "JUMP_RETRY",
      "START_INCR",
      "MODIFY_TASK_NUMBER",
      "CONTINUE_JOB",
      "STOP_JOB",
      "CONTINUE_CAPTURE",
      "STOP_CAPTURE",
      "CONTINUE_APPLY",
      "STOP_APPLY",
      "PAY_ORDER",
      "UNSUBSCRIBE",
      "TO_PERIOD",
      "TO_RENEW",
      "ORDER_INFO",
      "CHANGE_FLAVOR",
      "CLONE"
    ]
  }
}, {
  "id": "7f13c511-c35b-4f82-92ae-83bcfb0jb201",
  "name": "DRS-9383",
  "status": "CONFIGURATION",
  "description": "",
  "create_time": "2020-12-21 17:18:44",
  "engine_type": "mysql",
  "net_type": "eip",
  "billing_tag": false,
  "job_direction": "up",
  "db_use_type": "sync",
  "task_type": "FULL_INCR_TRANS",
  "node_newFramework": false
  "job_action": {
    "available_actions": [
      "CREATE",
```

```
"START",
"CHANGE",
"CHOOSE_OBJECT",
"PRE_CHECK",
"CHANGE_MODE",
"FREE_RESOURCE",
"MODIFY_DB_CONFIG",
"API_CONFIGURATION_ACTION"
],
"unavailable_actions": [
"RETRY",
"RESET",
"DELETE",
"QUERY_PRE_CHECK",
"SWITCH_OVER",
"MODIFY_SPECIFICATION_ID",
"RESET_DB_PWD",
"MODIFY_CONFIGURATION",
"PAUSE",
"JUMP_RETRY",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"START_INCR",
"MODIFY_TASK_NUMBER",
"CONTINUE_JOB",
"STOP_JOB",
"CONTINUE_CAPTURE",
"STOP_CAPTURE",
"CONTINUE_APPLY",
"STOP_APPLY",
"PAY_ORDER",
"UNSUBSCRIBE",
"TO_PERIOD",
"TO_RENEW",
"ORDER_INFO",
"CHANGE_FLAVOR",
"CLONE"
]
}, {
"id" : "7686e879-46a4-4d6b-bda9-5540424jb201",
```



```
"name" : "DRS-9272",
"status" : "CONFIGURATION",
"description" : "",
"create_time" : "2020-12-21 16:53:36",
"engine_type" : "mysql",
"net_type" : "eip",
"billing_tag" : false,
"job_direction" : "up",
"db_use_type" : "sync",
"task_type" : "FULL_INCR_TRANS",
"node_newFramework" : false
"job_action": {
  "available_actions": [
    "CREATE",
    "START",
    "CHANGE",
    "CHOOSE_OBJECT",
    "PRE_CHECK",
    "CHANGE_MODE",
    "FREE_RESOURCE",
    "MODIFY_DB_CONFIG",
    "API_CONFIGURATION_ACTION"
  ],
  "unavailable_actions": [
    "RETRY",
    "RESET",
    "DELETE",
    "QUERY_PRE_CHECK",
    "SWITCH_OVER",
    "MODIFY_SPECIFICATION_ID",
    "RESET_DB_PWD",
    "MODIFY_CONFIGURATION",
    "PAUSE",
    "JUMP_RETRY",
    "START_INCR",
    "MODIFY_TASK_NUMBER",
    "CONTINUE_JOB",
    "STOP_JOB",
    "CONTINUE_CAPTURE",
    "STOP_CAPTURE",
    "CONTINUE_APPLY",
    "STOP_APPLY",
    "PAY_ORDER",
    "UNSUBSCRIBE",
    "TO_PERIOD",
    "TO_RENEW",
    "ORDER_INFO",
    "CHANGE_FLAVOR",
    "CLONE"
  ]
}
}, {
  "id" : "5b2c2ec8-430e-4de0-937b-9d9547ajb201",
  "name" : "DRS-2899",
  "status" : "RELEASE_RESOURCE_COMPLETE",
  "description" : "",
  "create_time" : "2020-12-21 16:24:24",
  "engine_type" : "mysql",
  "net_type" : "eip",
  "billing_tag" : false,
  "job_direction" : "up",
  "db_use_type" : "sync",
  "task_type" : "FULL_INCR_TRANS",
  "node_newFramework" : false
  "job_action": {
    "available_actions": [
      "CREATE",
      "DELETE",
      "PRE_CHECK",
```

```

"CHANGE_MODE",
"MODIFY_DB_CONFIG",
"CLONE"
],
"unavailable_actions": [
"FREE_RESOURCE",
"START",
"CHANGE",
"CHOOSE_OBJECT",
"RETRY",
"RESET",
"QUERY_PRE_CHECK",
"SWITCH_OVER",
"MODIFY_SPECIFICATION_ID",
"RESET_DB_PWD",
"MODIFY_CONFIGURATION",
"PAUSE",
"JUMP_RETRY",
"START_INCR",
"MODIFY_TASK_NUMBER",
"CONTINUE_JOB",
"STOP_JOB",
"CONTINUE_CAPTURE",
"STOP_CAPTURE",
"CONTINUE_APPLY",
"STOP_APPLY",
"PAY_ORDER",
"UNSUBSCRIBE",
"TO_PERIOD",
"TO_RENEW",
"ORDER_INFO",
"CHANGE_FLAVOR"
]
}
}],
"total_record" : 18
}

```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.20 Querying Task Details in Batches

Function

This API is used to query task details in batches by task ID.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

You can call a maximum of 10 APIs in batches.

URI

POST /v3/{project_id}/jobs/batch-detail

Table 6-148 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-149 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none">• en-us• zh-cn

Table 6-150 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of strings	Querying task details in batches
page_req	No	Object	Pagination information. For details, see Table 6-151 .

Table 6-151 Data structure description of field **page_req**

Parameter	Mandatory	Type	Description
cur_page	No	Integer	Current page number, which cannot exceed the maximum number of pages. (Number of pages = Number of transferred job IDs/Number of tasks on each page) <ul style="list-style-type: none"> • Minimum value: 1. • Default value: 1
per_page	No	Integer	Number of items on each page. If this parameter is set to 0 , all items are obtained. <ul style="list-style-type: none"> • Minimum value: 0 • Maximum value: 100 • Default value: 5

Response Parameters

Status code: 200

Table 6-152 Response body parameters

Parameter	Type	Description
count	Integer	Number of tasks.
results	Array of objects	Task details. For details, see Table 6-153 .

Table 6-153 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.
parent_id	String	Parent task ID.
name	String	Task name.

Parameter	Type	Description
status	String	<p>Task status.</p> <ul style="list-style-type: none"> ● CREATING: The task is being created. ● CREATE_FAILED: The task fails to be created. ● CONFIGURATION: The task is being configured. ● STARTJOBING: The task is being started. ● WAITING_FOR_START: The task is waiting to be started. ● START_JOB_FAILED: The task fails to be started. ● PAUSING: The task is paused. ● FULL_TRANSFER_STARTED: Full migration or synchronization starts. Initialization is in progress in the DR scenario. ● FULL_TRANSFER_FAILED: Full migration or synchronization fails. Initialization fails in the DR scenario. ● FULL_TRANSFER_COMPLETE: Full migration or synchronization is complete. Initialization is complete in the DR scenario. ● INCRE_TRANSFER_STARTED: Incremental migration or synchronization starts. The DR task is in progress. ● INCRE_TRANSFER_FAILED: Incremental migration or synchronization fails. A DR exception occurs. ● RELEASE_RESOURCE_STARTED: The task is being stopped. ● RELEASE_RESOURCE_FAILED: The task fails to be stopped. ● RELEASE_RESOURCE_COMPLETE: The task is stopped. ● REBUILD_NODE_STARTED: The task is being recovered. ● REBUILD_NODE_FAILED: The task fails to be recovered. ● CHANGE_JOB_STARTED: The task is being changed. ● CHANGE_JOB_FAILED: The task fails to be changed. ● DELETED: The task is deleted. ● CHILD_TRANSFER_STARTING: The subtask is being started.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● CHILD_TRANSFER_STARTED: The subtask is being migrated. ● CHILD_TRANSFER_COMPLETE: The subtask migration is complete. ● CHILD_TRANSFER_FAILED: The subtask fails to be migrated. ● RELEASE_CHILD_TRANSFER_STARTED: The subtask is being stopped. ● RELEASE_CHILD_TRANSFER_COMPLETE: The subtask is stopped. ● NODE_UPGRADE_START: The upgrade starts. ● NODE_UPGRADE_COMPLETE: The upgrade is complete. ● NODE_UPGRADE_FAILED: The upgrade fails. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CREATING ● CREATE_FAILED ● CONFIGURATION ● STARTJOBING ● WAITING_FOR_START ● START_JOB_FAILED ● PAUSING ● FULL_TRANSFER_STARTED ● FULL_TRANSFER_FAILED ● FULL_TRANSFER_COMPLETE ● INCRE_TRANSFER_STARTED ● INCRE_TRANSFER_FAILED ● RELEASE_RESOURCE_STARTED ● RELEASE_RESOURCE_FAILED ● RELEASE_RESOURCE_COMPLETE ● REBUILD_NODE_STARTED ● REBUILD_NODE_FAILED ● CHANGE_JOB_STARTED ● CHANGE_JOB_FAILED ● DELETED ● CHILD_TRANSFER_STARTING ● CHILD_TRANSFER_STARTED ● CHILD_TRANSFER_COMPLETE ● CHILD_TRANSFER_FAILED

Parameter	Type	Description
		<ul style="list-style-type: none"> ● RELEASE_CHILD_TRANSFER_STARTED ● RELEASE_CHILD_TRANSFER_COMPLETE ● NODE_UPGRADE_START ● NODE_UPGRADE_COMPLETE ● NODE_UPGRADE_FAILED
description	String	Description.
create_time	String	Creation time, in timestamp format.
task_type	String	Task mode. Values: <ul style="list-style-type: none"> ● FULL_TRANS: full migration ● INCR_TRANS: incremental migration ● FULL_INCR_TRANS: full+incremental migration
source_endpoint	Object	Source database information. For details, see Table 6-154 .
dmq_endpoint	Object	DMQ information body. For details, see Table 6-154 .
source_sharding	Array of objects	Information about the physical source database. For details, see Table 6-154 .
target_endpoint	Object	Information body of the destination database. For details, see Table 6-154 .
net_type	String	Network type. Values: <ul style="list-style-type: none"> ● vpn ● vpc ● eip
failed_reason	String	Failure cause.
inst_info	Object	Replication instance information. For details, see Table 6-156 .
actual_start_time	String	Start time, in timestamp format.
full_transfer_complete_time	String	Full migration completion time, in timestamp format.
update_time	String	Update time, in timestamp format.

Parameter	Type	Description
job_direction	String	Task direction. Values: <ul style="list-style-type: none"> • up: The current cloud is the standby cloud in the DR and to-the-cloud scenarios. • down: The current cloud is the active cloud in the DR and out-of-cloud scenarios. • non-dbs: self-built databases.
db_use_type	String	Migration scenario Values: <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery.
need_restart	Boolean	Whether the instance needs to be restarted.
is_target_read_only	Boolean	Whether the destination instance is restricted to read-only.
conflict_policy	String	Conflict policy. Values: <ul style="list-style-type: none"> • stop: The conflict fails. • overwrite: Conflicting data is overwritten. • ignore: The conflict is ignored.
filter_ddl_policy	String	DDL filtering policy. Values: <ul style="list-style-type: none"> • drop_database: Filters DDLs. • drop_databasefilter_all: Filters out all DLLs. • "": No filter.
speed_limit	Array of objects	Migration speed limit. For details, see Table 6-157 .
schema_type	String	Migration schemes. Values: <ul style="list-style-type: none"> • Replication: primary/standby replication. • Tungsten: parses logs. • PGBaseBackup: PostgreSQL backup.
node_num	String	The number of nodes.
object_switch	Boolean	Whether to select objects.
master_job_id	String	Main task ID
full_mode	String	Full snapshot mode.
struct_trans	Boolean	Whether to migrate the structure.
index_trans	Boolean	Whether to migrate indexes.

Parameter	Type	Description
replace_definer	Boolean	Whether to replace the definer with the user of the destination database.
migrate_user	Boolean	Whether to migrate users.
sync_database	Boolean	Whether to perform database-level synchronization.
error_code	String	Error code.
error_message	String	Error message.
target_root_db	Object	Information about the root node database of the destination instance. For details, see Table 6-158 .
az_code	String	AZ where the node is located.
vpc_id	String	VPC to which the node belongs.
subnet_id	String	Subnet where the node is located.
security_group_id	String	Security group to which the node belongs.
multi_write	Boolean	Whether the task is a multi-active DR task. The value is true when the task is a dual-active DR task.
support_ip_v6	Boolean	Whether IPv6 is supported
inherit_id	String	Inherited task ID.
gtid	String	GTID set of breakpoints.
alarm_notify	Object	Exception notification settings. For details, see Table 6-159 .
is_multi_az	Boolean	Whether the task is a primary/standby task.
az_name	String	AZ name of the node.
master_az	String	Primary AZ of the primary/standby task.
slave_az	String	Standby AZ of the primary/standby task.
node_role	String	Primary/Standby role of a task.
incr_start_position	String	Start point of an incremental task.

Parameter	Type	Description
period_order	Object	Yearly/Monthly information. For details, see Table 6-161 . NOTE This parameter is returned only for yearly/monthly tasks.
object_infos	Array of objects	Synchronized object information. For details, see Table 6-162 .
original_job_direction	String	Task direction. Values: <ul style="list-style-type: none"> ● up: to-the-cloud scenarios and the current cloud is the standby cloud in the DR. ● down: out-of-cloud scenarios and the current cloud is the active cloud in the DR. ● non-dbs: self-built databases.
data_transformation	Object	Data filtering configuration information. For details, see Table 6-163 .
tags	Array of objects	Task tag. For details, see Table 6-168 .
public_ip_list	Array of objects	Information about a specified EIP. For details, see Table 6-169 .
bind_public_ip_state	String	Whether an EIP is successfully bound.
children	Array of objects	In the case of multiple tasks, if an EIP fails to be bound to a subtask, the subtask information is returned. For details, see Table 6-170 .

Table 6-154 Data structure description of fields **source_endpoint**, **dmq_endpoint**, **source_sharding**, and **target_endpoint**

Parameter	Type	Description
db_type	String	Database type. Values: <ul style="list-style-type: none"> ● mysql: MySQL ● mongodb: MongoDB ● gaussdbv5: GaussDB Distributed ● taurus: GaussDB(for MySQL) ● gaussdbv5ha: GaussDB Primary/Standby ● kafka: Kafka ● postgresql: PostgreSQL

Parameter	Type	Description
az_code	String	Code of the AZ where the database is located.
region	String	Region where the DB instance is located. This parameter is mandatory when the database is a cloud instance, for example, an RDS instance.
inst_id	String	DB instance ID. This parameter is mandatory when the database is a cloud instance, for example, an RDS instance.
vpc_id	String	ID of the VPC where the database is located.
subnet_id	String	ID of the subnet where the database is located.
security_group_id	String	ID of the security group to which the database belongs.
project_id	String	Project ID of an RDS DB instance.
db_name	String	The service name. This parameter is mandatory when the source database is an Oracle database. The database name can be a maximum of 128 characters in length and cannot contain the following special characters: !<>&\"
db_password	String	Database password.
db_port	Integer	Database port. The value is an integer ranging from 1 to 65535.
db_user	String	Database user.
inst_name	String	RDS instance name.
ip	String	Database IP address.
mongo_ha_mode	String	Mongo HA mode.
safe_mode	Integer	Running mode of an MRS cluster. Values: <ul style="list-style-type: none">● 0: Normal cluster● 1: Security cluster
ssl_certificate_password	String	SSL certificate password. The certificate file name extension is .p12.
ssl_certificate_checksum	String	The checksum value of the SSL certificate, which is used for backend verification. This parameter is mandatory for secure connection to the source database.
ssl_certificate_key	String	SSL certificate content, which is encrypted using Base64.

Parameter	Type	Description
ssl_cert_name	String	SSL certificate name.
ssl_link	Boolean	Whether SSL is enabled.
topic	String	Kafka topic name.
cluster_mode	String	For MongoDB 4.0 or later, if the cluster instance cannot obtain the IP address of the sharded node, set source_endpoint to Sharding4.0+ . Default value: Sharding4.0+ Enumerated value: Sharding4.0+
kafka_security_config	Object	This parameter is only for Kafka security authentication. For details, see Table 6-155 .

Table 6-155 Data structure description of field **kafka_security_config**

Parameter	Type	Description
type	String	Security protocol. This parameter is mandatory for security authentication. The corresponding field for Kafka is security.protocol . <ul style="list-style-type: none"> ● PLAINTEXT: No security authentication mode is available. You only need to enter an IP address and a port number. ● SASL_PLAINTEXT: The SASL mechanism is used to connect to Kafka, and you need to configure SASL parameters. ● SSL: The SSL encryption is used to connect to Kafka, and you need to configure SSL parameters. ● SASL_SSL: The SASL and SSL encryption authentication modes are used. You need to configure SSL and SASL parameters. Enumerated values: <ul style="list-style-type: none"> ● PLAINTEXT ● SASL_PLAINTEXT ● SASL_SSL ● SSL
trust_store_key_name	String	Certificate name. This parameter is mandatory when the security protocol is set to SSL or SASL_SSL .

Parameter	Type	Description
trust_store_key	String	Value of the security certificate after Base64 transcoding. This parameter is mandatory when the security protocol is set to SSL or SASL_SSL .
trust_store_password	String	Certificate password. This parameter is mandatory when a password is set for the certificate.
endpoint_algorithm	String	Host name endpoint identification algorithm, which specifies the endpoint identification algorithm for verifying the server host name using the server certificate. If this parameter is left blank, host name verification is disabled. The corresponding field for Kafka is ssl.endpoint.identification.algorithm .
sasl_mechanism	String	SASL mechanism used for client connection. The corresponding field for Kafka is sasl.mechanism . The values are as follows: <ul style="list-style-type: none"> • GSSAPI • PLAIN • SCRAM-SHA-256 • SCRAM-SHA-512
delegation_to_kens	Boolean	Whether to use token authentication. This parameter is valid only when the security protocol is set to SASL_SSL or SASL_PLAINTEXT and the SASL mechanism is set to SCRAM-SHA-256 or SCRAM-SHA-512 .
enable_key_store	Boolean	Whether to enable two-way SSL authentication.
key_store_key	String	Keystore certificate. This parameter is mandatory when two-way SSL authentication is enabled.
key_store_key_name	String	Keystore certificate name. This parameter is mandatory when two-way SSL authentication is enabled.
key_store_password	String	Keystore certificate password. This parameter is mandatory when a password is set for the certificate. The corresponding field for Kafka is ssl.keystore.password .
set_private_key_password	Boolean	Whether to set the keystore private key password. The default value is false .

Parameter	Type	Description
key_password	String	Keystore private key password. This parameter is mandatory when two-way SSL authentication is enabled and set_private_key_password is set to true . The corresponding field for Kafka is ssl.key.password .

Table 6-156 Data structure description of field **inst_info**

Parameter	Type	Description
engine_type	String	Engine type of a DRS task. Values: <ul style="list-style-type: none"> ● mysql: used for migration and synchronization from MySQL to MySQL ● mongodb: used for migration from MongoDB to DDS ● cloudDataGuard-mysql: used for DR from MySQL to MySQL ● gaussdbv5: used for GaussDB synchronization ● mysql-to-kafka: used for synchronization from MySQL to Kafka ● taurus-to-kafka: used for synchronization from GaussDB(for MySQL) to Kafka ● gaussdbv5ha-to-kafka: used for synchronization from GaussDB primary/standby to Kafka ● postgresql: used for synchronization from PostgreSQL to PostgreSQL For details, see Engine Types .
inst_type	String	DB instance type. Value: high
ip	String	Private IP address of the replication instance.
public_ip	String	EIP of the replication instance.
start_time	String	Scheduled start time of a replication instance task.
status	String	Replication instance status. Values: <ul style="list-style-type: none"> ● active ● deleted
volume_size	Integer	Storage space of a replication instance.

Table 6-157 Data structure description of field **speed_limit**

Parameter	Type	Description
begin	String	Start time of flow control.
end	String	End time of flow control.
is_utc	Boolean	Whether the UTC time is used.
speed	String	Flow control

Table 6-158 Data structure description of field **target_root_db**

Parameter	Type	Description
db_name	String	Database name.
db_encoding	String	Encoding format

Table 6-159 Data structure description of field **alarm_notify**

Parameter	Type	Description
subscriptions	Array of objects	SMN information. For details, see Table 6-160 .
topic_name	String	Topic name.
delay_time	Long	Subscription delay.
rto_delay	Long	RTO delay.
rpo_delay	Long	RPO delay.
alarm_to_user	Boolean	Whether to notify users of alarms.

Table 6-160 Data structure description of field **subscriptions**

Parameter	Type	Description
endpoints	Array of strings	SMS or email list.
protocol	String	Notification methods. sms : SMS; email : Email. Enumerated value: <ul style="list-style-type: none">• sms• email

Table 6-161 Data structure description of field **period_order**

Parameter	Type	Description
status	String	Order status.
order_id	String	Order ID.
charging_mode	Integer	Billing mode. Values: <ul style="list-style-type: none">● 0: indicates the monthly/yearly billing.● 1: indicates the pay-per-use billing.
period_type	Integer	Subscription period type. Values: <ul style="list-style-type: none">● 2: indicates that the service is subscribed by month.● 3: indicates that the service is subscribed by year.
period_num	Integer	Number of subscription periods. Values: <ul style="list-style-type: none">● If period_type is set to 2 (month), the value ranges from 1 to 9.● If period_type is set to 3 (year), the value ranges from 1 to 3.
is_auto_renew	Integer	Whether auto renewal is enabled. Values: <ul style="list-style-type: none">● 0: indicates that auto renewal is disabled.● 1: indicates that auto renewal is enabled.
eff_time	String	Time when the resource takes effect (time when the resource is created). The value is UTC time in yyyy-MM-ddTHH:mm:ssZ (2016-06-28T00:00:00Z) format.
exp_time	String	Time when the resource expires. If the resource is renewed, it indicates the expiration time after the renewal. The value is UTC time in yyyy-MM-ddTHH:mm:ssZ (2016-03-28T00:00:00Z) format.

Table 6-162 Data structure description of field **object_infos**

Parameter	Type	Description
id	String	When type is set to database , this parameter indicates the database name. If type is set to table or view , set the field value by referring to the example.
parent_id	String	When type is set to table or view , this parameter indicates the database name.
type	String	Type. Values: <ul style="list-style-type: none"> • database • table • schema • view
name	String	Database object name, including the database name, table name, and view name.
alias_name	String	Alias, which is the new mapped name.

Table 6-163 Data structure description of field **data_transformation**

Parameter	Type	Description
total_count	Long	Total number of data filtering criteria.
filter_conditions	Array of objects	Data filtering configuration information. Constraints: A maximum of 10,000 data filtering criteria can be returned. For details, see Table 6-164 .

Table 6-164 Data structure description of field **filter_conditions**

Parameter	Type	Description
transformation_info	Object	Common configuration for data filtering. For details, see Table 6-166 .
config_transformation	Object	Advanced configuration for data filtering. For details, see Table 6-167 .
data_transformation_object_infos	Array of objects	Data filtering object information. For details, see Table 6-165 .

Table 6-165 Data structure description of field **data_transformation_object_infos**

Parameter	Mandatory	Type	Description
id	No	String	Database object, database table name, and processing type. For example, the format is db1-**-tb1-**---- conditionFilter-- .
data_transformation_type	No	String	<ul style="list-style-type: none"> The processing rule value is contentConditionalFilter. The configuration rule value is configConditionalFilter. Values: <ul style="list-style-type: none"> - contentConditionalFilter - configConditionalFilter
schema_name	No	String	Name of the schema for data processing.
table_name	No	String	Name of the table for data processing.

Table 6-166 Data structure description of field **transformation_info**

Parameter	Mandatory	Type	Description
transformation_type	Yes	String	<ul style="list-style-type: none"> The processing rule value is contentConditionalFilter. The configuration rule value is configConditionalFilter. Values: <ul style="list-style-type: none"> - contentConditionalFilter - configConditionalFilter
value	Yes	String	Filter criteria. The processing rule value is a SQL statement, and the configuration rule value is config . The value contains a maximum of 256 characters.

Table 6-167 Data structure description of field **config_transformation**

Parameter	Mandatory	Type	Description
db_table_name	Yes	String	<i>Database-name.Table-name</i> , for example, lxl_test1.test_1 , where lxl_test1 is the database name and test_1 is the table name.
db_name	Yes	String	Database name. The value contains a maximum of 256 characters.
table_name	Yes	String	Table name. The value contains a maximum of 256 characters.
col_names	Yes	String	Column name. The value contains a maximum of 256 characters.
prim_key_or_index	Yes	String	Primary key or unique index. The value contains a maximum of 256 characters.
indexs	Yes	String	Index that requires optimization. The value contains a maximum of 256 characters.
values	Yes	String	Filtering criteria. The value contains a maximum of 256 characters.

Table 6-168 Data structure description of field **tags**

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

Table 6-169 Data structure description of field **public_ip_list**

Parameter	Type	Description
id	String	ID of a specified EIP.
public_ip	String	EIP.

Parameter	Type	Description
type	String	Type of a task with an EIP bound. <ul style="list-style-type: none"> In a primary/standby task, master indicates the primary task, and slave indicates the standby task. In other cases, the value is fixed to master. Enumerated values: <ul style="list-style-type: none"> master slave

Table 6-170 Data structure description of field **children**

Parameter	Type	Description
id	String	Subtask ID.
name	String	Subtask name.

Example Request

Request for querying task details:

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-detail
```

```
{
  "jobs" : [ "24834eb6-be30-464e-a299-f7aa730jb101", "140b5236-88ad-43c8-811c-1268453jb101" ],
  "page_req" : {
    "cur_page" : 1,
    "per_page" : 10
  }
}
```

Example Response

Status code: 200

OK

```
{
  "count" : 2,
  "results" : [ {
    "id" : "24834eb6-be30-464e-a299-f7aa730jb101",
    "name" : "DRS-3999-lws",
    "status" : "STARTJOBING",
    "description" : "",
    "create_time" : "1608519469412",
    "task_type" : "FULL_INCR_TRANS",
    "source_endpoint" : {
      "ip" : "172.22.74.56",
      "region" : "cn-xianhz-1",
      "db_type" : "mysql",
      "db_port" : 3306,
      "ssl_link" : false,
      "project_id" : "054ba152d480d55b2f5dc0069e7ddef0",
      "db_user" : "root"
    }
  }
]
```

```
},
"target_endpoint": {
  "ip": "172.21.176.219",
  "region": "cn-xianhz-1",
  "db_type": "mysql",
  "db_port": 3306,
  "ssl_link": false,
  "inst_id": "3ef57dbcc8db478a9e346d26ef2575bfin01",
  "project_id": "054ba152d480d55b2f5dc0069e7ddef0",
  "inst_name": "rds-lws-target",
  "db_user": "root",
  "vpc_id": "0ff8df7b-f0e9-4b16-ac16-1db3dacb69e4",
  "subnet_id": "f857d371-2f03-4622-85f6-2b7d42d0d82c"
},
"inst_info": {
  "ip": "172.16.213.101",
  "inst_type": "high",
  "engine_type": "mysql",
  "volume_size": 100,
  "public_ip": "10.154.219.202",
  "start_time": "0"
},
"actual_start_time": "1608520069393",
"update_time": "1608520068979",
"job_direction": "up",
"db_use_type": "migration",
"need_restart": false,
"is_target_readonly": true,
"speed_limit": [ ],
"schema_type": "Tungsten",
"object_switch": true,
"replace_definer": true,
"migrate_user": false,
"az_code": "az2xahz",
"vpc_id": "0ff8df7b-f0e9-4b16-ac16-1db3dacb69e4",
"subnet_id": "f857d371-2f03-4622-85f6-2b7d42d0d82c",
"security_group_id": "d90c971b-4b9d-402c-9c59-5c239389b8dd",
"support_ip_v6": false,
"original_job_direction": "up"
"object_infos": [{
  "id": "test",
  "type": "database",
  "name": "test",
  "select": "true"
}, {
  "id": "test-*.table01",
  "type": "table",
  "name": "table01",
  "select": "true",
  "parent_id": "test"
}]
}, {
  "id": "140b5236-88ad-43c8-811c-1268453jb101",
  "name": "DRS-0042-linxiaolu",
  "status": "CONFIGURATION",
  "description": "",
  "create_time": "1608366204171",
  "task_type": "FULL_INCR_TRANS",
  "source_endpoint": {
    "ip": "192.168.0.27",
    "region": "cn-xianhz-1",
    "db_type": "mysql",
    "db_port": 3306,
    "ssl_link": false,
    "project_id": "054ba152d480d55b2f5dc0069e7ddef0",
    "db_user": "root"
  },
  "target_endpoint": {
    "ip": "192.168.0.131",
```

```
"region" : "cn-xianhz-1",
"db_type" : "mysql",
"db_port" : 3306,
"ssl_link" : false,
"inst_id" : "e05a3679efe241d8b5dee80b17c1a863in01",
"project_id" : "054ba152d480d55b2f5dc0069e7ddef0",
"inst_name" : "rds-1417-lxl",
"db_user" : "root",
"vpc_id" : "65f0391c-0582-44a6-aa50-248f97ed82e1",
"subnet_id" : "352ad828-3467-4f03-987a-c55a5a9dd417"
},
"inst_info" : {
  "ip" : "192.168.0.229",
  "status" : "ACTIVE",
  "inst_type" : "high",
  "engine_type" : "mysql",
  "volume_size" : 100,
  "public_ip" : "10.154.219.72",
  "start_time" : "0"
},
"actual_start_time" : "1608369232412",
"full_transfer_complete_time" : "1608369510202",
"update_time" : "1608517066434",
"job_direction" : "up",
"db_use_type" : "migration",
"need_restart" : false,
"is_target_readonly" : true,
"speed_limit" : [ ],
"schema_type" : "Tungsten",
"object_switch" : false,
"replace_definer" : true,
"migrate_user" : false,
"tags": [{
  "key1" : "value1",
  "key2" : "value2"
}],
"az_code" : "az2xahz",
"vpc_id" : "65f0391c-0582-44a6-aa50-248f97ed82e1",
"subnet_id" : "352ad828-3467-4f03-987a-c55a5a9dd417",
"security_group_id" : "d90c971b-4b9d-402c-9c59-5c239389b8dd",
"support_ip_v6" : false,
"original_job_direction": "up"
"object_infos":[{
  "id":"test2",
  "type":"database",
  "name":"test2",
  "select":"true",
  },{
  "id":"test2-*.table02",
  "type":"table",
  "name":"table02",
  "select":"true",
  "parent_id":"test2"
  }]
}],
"data_transformation": {
  "total_count": 2,
  "filter_conditions": [
    {
      "data_transformation_object_infos": [
        {
          "id": "test02-*.table02-*.conditionFilter-",
          "db_name": "test02",
          "table_name": "table02",
          "data_transformation_type": "contentConditionalFilter"
        }
      ]
    },
    {
      "transformation_info": {
        "value": "id1<1",
```

```
    "transformation_type": "contentConditionalFilter"
  }
},
{
  "data_transformation_object_infos": [
    {
      "id": "test02-**-table01-**----configConditionFilter--",
      "db_name": "test02",
      "table_name": "test01",
      "data_transformation_type": "configConditionalFilter"
    }
  ],
  "transformation_info": {
    "value": "config",
    "transformation_type": "configConditionalFilter"
  },
  "config_transformation": {
    "indexes": "id",
    "values": "id <= 6",
    "db_table_name": "test02.table01",
    "db_name": "test02",
    "table_name": "table01",
    "col_names": "id",
    "prim_key_or_index": "id"
  }
}
]
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

6.1.21 Querying Task Statuses in Batches

Function

This API is used to query task statuses in batches by task ID.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

URI

POST /v3/{project_id}/jobs/batch-status

Table 6-171 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-172 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none">• en-us• zh-cn

Table 6-173 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of strings	Querying task details in batches
page_req	No	Object	Pagination information. For details, see Table 6-174 .

Table 6-174 Data structure description of field **page_req**

Parameter	Mandatory	Type	Description
cur_page	No	Integer	Current page number, which cannot exceed the maximum number of pages. (Number of pages = Number of transferred job IDs/Number of tasks on each page) <ul style="list-style-type: none"> • Minimum value: 1. • Default value: 1
per_page	No	Integer	Number of items on each page. If this parameter is set to 0 , all items are obtained. <ul style="list-style-type: none"> • Minimum value: 0 • Maximum value: 100 • Default value: 5

Response Parameters

Status code: 200

Table 6-175 Response body parameters

Parameter	Type	Description
results	Array of objects	Task status information For details, see Table 6-176 .
count	Integer	Number of returned tasks.

Table 6-176 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.

Parameter	Type	Description
status	String	<p>Task status.</p> <ul style="list-style-type: none"> ● CREATING: The task is being created. ● CREATE_FAILED: The task fails to be created. ● CONFIGURATION: The task is being configured. ● STARTJOBING: The task is being started. ● WAITING_FOR_START: The task is waiting to be started. ● START_JOB_FAILED: The task fails to be started. ● PAUSING: The task is paused. ● FULL_TRANSFER_STARTED: Full migration or synchronization starts. Initialization is in progress in the DR scenario. ● FULL_TRANSFER_FAILED: Full migration or synchronization fails. Initialization fails in the DR scenario. ● FULL_TRANSFER_COMPLETE: Full migration or synchronization is complete. Initialization is complete in the DR scenario. ● INCRE_TRANSFER_STARTED: Incremental migration or synchronization starts. The DR task is in progress. ● INCRE_TRANSFER_FAILED: Incremental migration or synchronization fails. A DR exception occurs. ● RELEASE_RESOURCE_STARTED: The task is being stopped. ● RELEASE_RESOURCE_FAILED: The task fails to be stopped. ● RELEASE_RESOURCE_COMPLETE: The task is stopped. ● REBUILD_NODE_STARTED: The task is being recovered. ● REBUILD_NODE_FAILED: The task fails to be recovered. ● CHANGE_JOB_STARTED: The task is being changed. ● CHANGE_JOB_FAILED: The task fails to be changed. ● DELETED: The task is deleted. ● CHILD_TRANSFER_STARTING: The subtask is being started.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● CHILD_TRANSFER_STARTED: The subtask is being migrated. ● CHILD_TRANSFER_COMPLETE: The subtask migration is complete. ● CHILD_TRANSFER_FAILED: The subtask fails to be migrated. ● RELEASE_CHILD_TRANSFER_STARTED: The subtask is being stopped. ● RELEASE_CHILD_TRANSFER_COMPLETE: The subtask is stopped. ● NODE_UPGRADE_START: The upgrade starts. ● NODE_UPGRADE_COMPLETE: The upgrade is complete. ● NODE_UPGRADE_FAILED: The upgrade fails. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CREATING ● CREATE_FAILED ● CONFIGURATION ● STARTJOBING ● WAITING_FOR_START ● START_JOB_FAILED ● PAUSING ● FULL_TRANSFER_STARTED ● FULL_TRANSFER_FAILED ● FULL_TRANSFER_COMPLETE ● INCRE_TRANSFER_STARTED ● INCRE_TRANSFER_FAILED ● RELEASE_RESOURCE_STARTED ● RELEASE_RESOURCE_FAILED ● RELEASE_RESOURCE_COMPLETE ● REBUILD_NODE_STARTED ● REBUILD_NODE_FAILED ● CHANGE_JOB_STARTED ● CHANGE_JOB_FAILED ● DELETED ● CHILD_TRANSFER_STARTING ● CHILD_TRANSFER_STARTED ● CHILD_TRANSFER_COMPLETE ● CHILD_TRANSFER_FAILED

Parameter	Type	Description
		<ul style="list-style-type: none"> ● RELEASE_CHILD_TRANSFER_STARTED ● RELEASE_CHILD_TRANSFER_COMPLETE ● NODE_UPGRADE_START ● NODE_UPGRADE_COMPLETE ● NODE_UPGRADE_FAILED
error_code	String	Error code.
error_message	String	Error message.

Example Request

Example of querying task statuses in batches:

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-status
```

```
{
  "jobs": [ "9a470239-2308-4bb5-a6bc-1040402fjb21", "dc67695a-ee3e-49b8-a022-a099bd81jb21" ],
  "page_req": {
    "cur_page": 1,
    "per_page": 10
  }
}
```

Example Response

Status code: 200

OK

```
{
  "results": [ {
    "id": "9a470239-2308-4bb5-a6bc-1040402fjb21",
    "status": "INCRE_TRANSFER_STARTED"
  }, {
    "id": "dc67695a-ee3e-49b8-a022-a099bd81jb21",
    "status": "INCRE_TRANSFER_FAILED"
  } ],
  "count": 2
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.22 Configuring Exception Notifications

Function

- This API is used to set alarm information in batches. This parameter cannot be set for stopped tasks.
- You can select an existing SMN topic or manually enter a mobile number or email address.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

URI

POST /v3/{project_id}/jobs/batch-set-smn

Table 6-177 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-178 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Content type, which is application/json. The default value is application/json .

Table 6-179 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	Task information. For details, see Table 6-180 .
alarm_notify_info	Yes	Object	Notification method and information. For details, see Table 6-181 .

Table 6-180 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.
status	Yes	String	Task status.

Parameter	Mandatory	Type	Description
engine_type	Yes	String	<p>Engine type of a DRS task. The value can be:</p> <ul style="list-style-type: none"> • mysql: used for migration and synchronization from MySQL to MySQL • mongodb: used for migration from MongoDB to DDS • cloudDataGuard-mysql: used for DR from MySQL to MySQL • gaussdbv5: used for GaussDB synchronization • mysql-to-kafka: used for synchronization from MySQL to Kafka • taurus-to-kafka: used for synchronization from GaussDB(for MySQL) to Kafka • gaussdbv5ha-to-kafka: used for synchronization from GaussDB primary/standby to Kafka • postgresql: used for synchronization from PostgreSQL to PostgreSQL <p>For details, see Engine Types.</p>

Table 6-181 Data structure description of field **alarm_notify_info**

Parameter	Mandatory	Type	Description
subscriptions	No	Array of objects	<p>Entered when the mobile number or email address is manually entered.</p> <p>For details, see Table 6-182.</p>
topic_urn	No	String	Topic resource ID.
delay_time	No	Long	Subscription delay.
rto_delay	No	Long	RTO delay.
rpo_delay	No	Long	RPO delay.

Parameter	Mandatory	Type	Description
alarm_to_user	No	Boolean	Whether to notify users of abnormal alarms. If this parameter is not specified, the default value is false .

Table 6-182 Data structure description of field **subscriptions**

Parameter	Mandatory	Type	Description
endpoints	No	Array of strings	SMS or email list.
protocol	No	String	Notification methods. sms : SMS; email : Email. Enumerated values: <ul style="list-style-type: none"> • sms • email

Response Parameters

Status code: 200

Table 6-183 Response body parameters

Parameter	Type	Description
results	Array of objects	Response body for inputting SMN. For details, see Table 6-184 .
count	Integer	Total number of input SMNs.

Table 6-184 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.
status	String	Task status.
error_code	String	Error code.
error_msg	String	Error message.

Example Request

- Associating an existing SMN topic with a MySQL task that is being configuring

https://{endpoint}/v3/0ac6eb2c8000d2ee2fd9c006dededbe6/jobs/batch-set-smn

```
{
  "jobs": [ {
    "job_id": "c7296a3b-0d9f-424c-8d74-816ca62jb2a2",
    "status": "CONFIGURATION",
    "engine_type": "mysql"
  } ],
  "alarm_notify_info": {
    "topic_urn": "urn:smn:cn-north-7:04f9aca88c00d3202fd4c01ed679daf0:drs-zw",
    "delay_time": 1200
  }
}
```

- Manually entering the mobile number and email address for an incremental task

https://{endpoint}/v3/0ac6eb2c8000d2ee2fd9c006dededbe6/jobs/batch-set-smn

```
{
  "jobs": [ {
    "job_id": "2b36da5c-44a7-41af-8889-247b14djb2a2",
    "status": "INCRE_TRANSFER_STARTED",
    "engine_type": "oracle-to-dws"
  } ],
  "alarm_notify_info": {
    "subscriptions": [ {
      "protocol": "sms",
      "endpoints": [ "12345678910" ]
    }, {
      "protocol": "email",
      "endpoints": [ "123456@abc.com" ]
    } ],
    "delay_time": 100
  }
}
```

Example Response

Status code: 200

OK

```
{
  "count": 1,
  "results": [ {
    "id": "ed3723ca-d34a-42b0-9829-0baef12jb20b",
    "status": "success"
  } ]
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

6.1.23 Querying Available Node Specifications

Function

This API is used to query available node specifications.

URI

GET /v3/{project_id}/node-type

Table 6-185 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Table 6-186 Query parameters

Parameter	Mandatory	Type	Description
engine_type	Yes	String	Engine type.
db_use_type	Yes	String	Migration scenario. <ul style="list-style-type: none">• migration: real-time migration.• sync: real-time synchronization.• cloudDataGuard: real-time disaster recovery. Enumerated values: <ul style="list-style-type: none">• migration• sync• cloudDataGuard

Parameter	Mandatory	Type	Description
job_direction	Yes	String	Migration direction. The value can be up (to the cloud), down (out of the cloud), or non-dbs (self-built databases). Enumerated values: <ul style="list-style-type: none"> • up • down • non-dbs
is_use_sellout_info	No	Boolean	Whether to check if resources are sold out. Default value: false
is_multi_write	No	Boolean	Whether dual-active disaster recovery is used. Default value: false

Request Parameters

Table 6-187 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 6-188 Response body parameters

Parameter	Type	Description
node_types	Array of objects	Node specification list. For details, see Table 6-189 .

Table 6-189 Data structure description of field `node_types`

Parameter	Type	Description
node_type	String	Specifications.
is_sellout	Boolean	Whether specifications are sold out.

Example Request

Querying available node specifications

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/node_type?  
db_use_type=sync&engine_type=mysql&job_direction=up&is_multi_write=false&is_use_sellout_info=true
```

Example Response

Status code: 200

OK

```
{  
  "node_types": [ {  
    "is_sellout": false,  
    "node_type": "micro"  
  }, {  
    "is_sellout": false,  
    "node_type": "small"  
  }, {  
    "is_sellout": false,  
    "node_type": "medium"  
  }, {  
    "is_sellout": false,  
    "node_type": "high"  
  }, {  
    "is_sellout": false,  
    "node_type": "xlarge"  
  } ]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code": "DRS.M00202",  
  "error_msg": "The value of job_direction is invalid."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.24 Querying Data-level Table Comparison Tasks

Function

This API is used to query data-level table comparison tasks.

URI

GET /v3/{project_id}/jobs/{job_id}/table/compare

Table 6-190 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 6-191 Query parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed per page. Default value: 1000
offset	No	Integer	Offset, which is the position where the query starts. The value must be no less than 0. Default value: 0

Request Parameters

Table 6-192 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Response Parameters

Status code: 200

Table 6-193 Response body parameters

Parameter	Type	Description
compare_jobs	Array of objects	Table comparison task details. For details, see Table 6-194 .
count	Long	Number of tasks.

Table 6-194 Data structure description of field **compare_jobs**

Parameter	Type	Description
id	String	ID of a comparison task.
type	String	Comparison type. <ul style="list-style-type: none">• lines: row comparison.• contents: value comparison.• random: sampling comparison. This function is available only for tasks from GaussDB Distributed to GaussDB Distributed, GaussDB Distributed to PostgreSQL, and GaussDB Primary/Standby to PostgreSQL.

Parameter	Type	Description
options	Map<String,String>	<p>Configuration item for a comparison task. The value is a key-value pair. Value comparison supports the following configuration items:</p> <ul style="list-style-type: none">• Comparison method. The key is contentCompareType. The value dynamic indicates a dynamic comparison, and the value static indicates a static comparison.• LOB comparison policy. The key is lobCompare. The value ignore indicates LOB data is ignored, and the value length indicates that LOB length is compared. <p>Row comparison supports the following configuration items:</p> <ul style="list-style-type: none">• Comparison policy configuration, which is applicable to many-to-one synchronization. The key is comparePolicy. The value normal indicates a one-to-one comparison, and the value manyToOne indicates a many-to-one comparison.
start_time	String	Start time in UTC format, for example, 2020-09-01T18:50:20Z .
end_time	String	End time in UTC format, for example, 2020-09-01T18:50:20Z .
status	String	<p>Status of a comparison task.</p> <ul style="list-style-type: none">• RUNNING: The comparison task is in progress.• WAITING_FOR_RUNNING: The comparison task is waiting to be started.• SUCCESSFUL: The comparison task is complete.• FAILED: The comparison task failed.• CANCELLED: The comparison task is canceled.• TIMEOUT_INTERRUPT: The comparison task timed out.• FULL_DOING: Full verification is in progress.• INCRE_DOING: Incremental verification is in progress.

Parameter	Type	Description
export_status	String	Status of the exported comparison result. <ul style="list-style-type: none"> • INIT: indicates that the comparison result export is in the initial status. • EXPORTING: indicates that the comparison result is being exported. • EXPORT_COMPLETE: indicates that the comparison result is exported. • EXPORT_COMMON_FAILED: indicates that the comparison result fails to be exported.
report_remain_seconds	Long	Remaining validity period of the exported comparison result.
compare_job_tag	Map<String,String>	Tag of a comparison task. This parameter is returned only when a comparison policy is configured.
proportion_value	String	Sampling ratio. Set this parameter when the comparison type is set to sampling comparison.

Example Request

Querying data-level table comparison tasks

https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/{job_id}/table/compare?offset=0&limit=10

Example Response

Status code: 200

OK

```
{
  "count" : 2,
  "compareJobs" : [ {
    "id" : "48c6acb4-1473-48fd-8676-df3705758c27",
    "type" : "lines",
    "options" : { },
    "status" : "SUCCESSFUL",
    "start_time" : "2024-03-14T06:30:14Z",
    "end_time" : "2024-03-14T06:31:14Z",
    "export_status" : "INIT",
    "report_remain_seconds" : -1
  }, {
    "id" : "9e01bd96-e627-4538-a545-5f31d1c88e94",
    "type" : "lines",
    "options" : { },
    "status" : "SUCCESSFUL",
    "start_time" : "2024-03-14T06:30:14Z",
    "end_time" : "2024-03-14T06:31:14Z",
    "export_status" : "INIT",
    "report_remain_seconds" : -1,
    "proportion_value" : "1"
  }
  ]
}
```


Status code: 400

Bad Request

```
{  
  "error_code" : "DRS.M00202",  
  "error_msg" : "The value of jobld is invalid."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.25 Creating a Data-level Table Comparison Task

Function

This API is used to create a data-level table comparison task.

URI

POST /v3/{project_id}/jobs/{job_id}/table/compare

Table 6-195 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 6-196 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Table 6-197 Request body parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Comparison type. <ul style="list-style-type: none">• lines: row comparison.• contents: value comparison.• random: sampling comparison. This function is available only for tasks from GaussDB Distributed to GaussDB Distributed, GaussDB Distributed to PostgreSQL, and GaussDB Primary/Standby to PostgreSQL.
start_time	No	String	Start time of a comparison task. The value is in timestamp format. If the value is empty, the task is started immediately.

Parameter	Mandatory	Type	Description
compare_mode	No	String	Data-level comparison mode. If this parameter is left empty, object information needs to be transferred in compare_object or compare_object_with_token . quick_comparison indicates a quick comparison. Value: quick_comparison Default value: quick_comparison
compare_object	No	Array of objects	Data-level comparison object. For details, see Table 6-198 .
options	No	Map<String,String>	Configuration item for a comparison task. The value is a key-value pair. Value comparison supports the following configuration items: <ul style="list-style-type: none"> Comparison method. The key is contentCompareType. The value dynamic indicates a dynamic comparison, and the value static indicates a static comparison. LOB comparison policy. The key is lobCompare. The value ignore indicates LOB data is ignored, and the value length indicates that LOB length is compared. Row comparison supports the following configuration items: <ul style="list-style-type: none"> Comparison policy configuration, which is applicable to many-to-one synchronization. The key is comparePolicy. The value normal indicates a one-to-one comparison, and the value manyToOne indicates a many-to-one comparison.

Parameter	Mandatory	Type	Description
compare_object_with_token	No	Array of objects	Object for data-level comparison (Cassandra DR only, with token information). For details, see Table 6-199 .
compare_task_num	No	Integer	Number of comparison task threads. This parameter is supported only for tasks of cloudDataGuard-cassandra and cloudDataGuard-gausscassandra-to-gausscassandra.
compare_transformation_infos	No	Array of objects	Data filtering information. For details, see Table 6-201 .
proportion_value	No	Double	Sampling ratio. Set this parameter when the comparison type is set to sampling comparison.

Table 6-198 Data structure description of field **compare_object**

Parameter	Mandatory	Type	Description
db_name	Yes	String	Database name.
table_name	No	Array of strings	List of table names in the database.

Table 6-199 Data structure description of field **compare_object_with_token**

Parameter	Mandatory	Type	Description
db_name	Yes	String	Database name.
table_name_with_token	No	Array of objects	List of tables (with tokens) in the database. For details, see Table 6-200 .

Table 6-200 Data structure description of field **table_name_with_token**

Parameter	Mandatory	Type	Description
table_name	Yes	String	Table name.

Parameter	Mandatory	Type	Description
min_token	No	String	Min token of a table.
max_token	No	String	Max token of a table.

Table 6-201 Data structure description of field **compare_transformation_infos**

Parameter	Mandatory	Type	Description
object_info	Yes	Array of objects	Object information. For details, see Table 6-202 .
transformation_info	Yes	Object	Data filtering information. For details, see Table 6-203 .

Table 6-202 Data structure description of field **object_info**

Parameter	Mandatory	Type	Description
id	No	String	<ul style="list-style-type: none"> Database name and table name. For example, the format is t_auto_db--users, where t_auto_db is the database name and users is the table name. Database name, schema name, and table name. For example, the format is t_auto_db--schema1--users, where t_auto_db is the database name, schema1 is the schema name, and users is the table name.

Table 6-203 Data structure description of field **transformation_info**

Parameter	Mandatory	Type	Description
transformation_type	Yes	String	Processing rule. The value is contentConditionalFilter .
value	Yes	String	Filtering condition. The value is an SQL condition statement, for example, id>100 . The value contains a maximum of 256 characters.

Response Parameters

Status code: 202

Table 6-204 Response body parameters

Parameter	Type	Description
id	String	ID of a comparison task.

Example Request

- Creating a data-level sampling comparison task

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/{job_id}/table/compare
```

```
{
  "compare_object": [ {
    "db_name": "t_auto_db",
    "table_name": [ ]
  } ],
  "options": { },
  "proportion_value": 20.1,
  "type": "random"
}
```
- Creating a data-level dynamic value comparison task

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/{job_id}/table/compare
```

```
{
  "compare_object": [ {
    "db_name": "t_auto_db",
    "table_name": [ ]
  } ],
  "options": {
    "contentCompareType": "dynamic"
  },
  "start_time": "1809366237000",
  "type": "contents"
}
```
- Creating a row comparison task with data filtering enabled

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/{job_id}/table/compare
```

```
{
  "compare_object": [ ],
  "compare_transformation_infos": [ {
    "object_info": [ {
      "id": "t_auto_db-*-test-*-users"
    } ],
    "transformation_info": {
      "transformationType": "contentConditionalFilter",
      "value": "id>100"
    }
  } ],
  "type": "lines"
}
```

Example Response

Status code: 202

OK

```
{
  "id" : "6a0deb4a-ce39-449b-8c49-e0eed954c155"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.M00202",
  "error_msg" : "The value of jobld is invalid."
}
```

Status Code

Status Code	Description
202	OK
400	Bad Request

Error Code

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

6.1.26 Canceling a Comparison Task

Function

This API is used to cancel a comparison task.

URI

DELETE /v3/{project_id}/jobs/{job_id}/compare/{compare_job_id}

Table 6-205 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.
compare_job_id	Yes	String	ID of a comparison task.

Request Parameters

Table 6-206 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Response Parameters

None

Example Request

Canceling a comparison task

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/f8688cfa-4e05-406f-a2e6-37a773cjb20y/compare/48c6acb4-1473-48fd-8676-df3705758c27
```

Example Response

Status code: 200

OK

```
{}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "DRS.M00202",  
  "error_msg" : "The value of jobId is invalid."  
}
```

Status Code

Status Code	Description
200	OK

Status Code	Description
400	Bad Request

Error Code

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

6.1.27 Immediately Starting a Data-level Table Comparison Task

Function

This API is used to immediately start a data-level table comparison task.

URI

POST /v3/{project_id}/jobs/{job_id}/table/compare/{compare_job_id}

Table 6-207 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.
compare_job_id	Yes	String	ID of a comparison task.

Request Parameters

Table 6-208 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Response Parameters

None

Example Request

Immediately starting a data-level table comparison task

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/f8688cfa-4e05-406f-a2e6-37a773cjb20y/  
table/compare/48c6acb4-1473-48fd-8676-df3705758c27
```

Example Response

Status code: 200

OK

```
{ }
```

Status code: 400

Bad Request

```
{  
  "error_code" : "DRS.M00202",  
  "error_msg" : "The value of jobId is invalid."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.28 Querying the Row Comparison Overview

Function

This API is used to query the row comparison overview.

URI

GET /v3/{project_id}/jobs/{job_id}/compare/{compare_job_id}/line-overview

Table 6-209 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.
compare_job_id	Yes	String	ID of a comparison task.

Table 6-210 Query parameters

Parameter	Mandatory	Type	Description
status	No	Integer	<p>Comparison status.</p> <ul style="list-style-type: none"> ● 0: The comparison result is inconsistent. ● 2: The comparison result is consistent. ● 3: The destination database table does not exist. ● 4: The comparison failed. ● 5: The comparison task is in progress. ● 6: The comparison task is waiting to be started. ● 7: The comparison task is canceled. ● 8: The source database is empty. ● 9: The destination database is empty. ● 10: Both the source and destination databases are empty. ● 11: The source table does not exist. ● 12: The destination table does not exist. ● 13: Neither the source table nor the destination table exists. ● 14: Failed to connect to the source database. ● 15: Failed to connect to the destination database. ● 16: SQL execution timed out on the source database. ● 17: SQL execution timed out on the destination database. ● 18: A source database SQL execution error occurred. ● 19: A destination database SQL execution error occurred.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • 20: Neither the source database nor the destination database exists. • 21: The source database does not exist. • 22: The destination database does not exist. • 23: The number of rows exceeds 100 million, and the comparison cannot be performed. • 27: The comparison task timed out.
limit	No	Integer	Number of items displayed per page. Default value: 1000
offset	No	Integer	Offset, which is the position where the query starts. The value must be no less than 0. Default value: 0

Request Parameters

Table 6-211 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 6-212 Response body parameters

Parameter	Type	Description
total_count	Integer	Number of comparison items.
data_compare_overview_infos	Array of objects	Information list. For details, see Table 6-213 .

Table 6-213 Data structure description of field **data_compare_overview_infos**

Parameter	Type	Description
source_db_name	String	Source database name.
target_db_name	String	Destination database name.

Parameter	Type	Description
status	Integer	<p>Comparison status.</p> <ul style="list-style-type: none">● 0: The comparison result is inconsistent.● 2: The comparison result is consistent.● 3: The destination database table does not exist.● 4: The comparison failed.● 5: The comparison task is in progress.● 6: The comparison task is waiting to be started.● 7: The comparison task is canceled.● 8: The source database is empty.● 9: The destination database is empty.● 10: Both the source and destination databases are empty.● 11: The source table does not exist.● 12: The destination table does not exist.● 13: Neither the source table nor the destination table exists.● 14: Failed to connect to the source database.● 15: Failed to connect to the destination database.● 16: SQL execution timed out on the source database.● 17: SQL execution timed out on the destination database.● 18: A source database SQL execution error occurred.● 19: A destination database SQL execution error occurred.● 20: Neither the source database nor the destination database exists.● 21: The source database does not exist.● 22: The destination database does not exist.● 23: The number of rows exceeds 100 million, and the comparison cannot be performed.● 27: The comparison task timed out.

Example Request

Querying the row comparison overview

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/f8688cfa-4e05-406f-a2e6-37a773cjb20y/  
table/compare/48c6acb4-1473-48fd-8676-df3705758c27/line-overview?offset=0&limit=10&status=2
```

Example Response

Status code: 200

OK

```
{  
  "total_count": 1,  
  "data_compare_overview_infos": [ {  
    "status": 2,  
    "source_db_name": "my_db",  
    "target_db_name": "my_db"  
  } ]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code": "DRS.M00202",  
  "error_msg": "The value of jobId is invalid."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.29 Querying Row Comparison Details

Function

This API is used to query row comparison details.

URI

GET /v3/{project_id}/jobs/{job_id}/compare/{compare_job_id}/line-detail

Table 6-214 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.
compare_job_id	Yes	String	ID of a comparison task.

Table 6-215 Query parameters

Parameter	Mandatory	Type	Description
status	No	Integer	<p>Comparison status.</p> <ul style="list-style-type: none"> ● 0: The comparison result is inconsistent. ● 2: The comparison result is consistent. ● 3: The destination database table does not exist. ● 4: The comparison failed. ● 5: The comparison task is in progress. ● 6: The comparison task is waiting to be started. ● 7: The comparison task is canceled. ● 8: The source database is empty. ● 9: The destination database is empty. ● 10: Both the source and destination databases are empty. ● 11: The source table does not exist. ● 12: The destination table does not exist. ● 13: Neither the source table nor the destination table exists. ● 14: Failed to connect to the source database. ● 15: Failed to connect to the destination database. ● 16: SQL execution timed out on the source database. ● 17: SQL execution timed out on the destination database. ● 18: A source database SQL execution error occurred. ● 19: A destination database SQL execution error occurred.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • 20: Neither the source database nor the destination database exists. • 21: The source database does not exist. • 22: The destination database does not exist. • 23: The number of rows exceeds 100 million, and the comparison cannot be performed. • 27: The comparison task timed out.
type	No	String	Type. <ul style="list-style-type: none"> • compare: Items that can be compared. • unCompare: Items that cannot be compared.
db_name	No	String	Source database name.
target_db_name	No	String	Destination database name.
query_tb_name	No	String	Keyword for filtering table names.
limit	No	Integer	Number of items displayed per page. Default value: 1000
offset	No	Integer	Offset, which is the position where the query starts. The value must be no less than 0. Default value: 0

Request Parameters

Table 6-216 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Response Parameters

Status code: 200

Table 6-217 Response body parameters

Parameter	Type	Description
total_count	Integer	Comparison quantity.
table_line_compare_result_infos	Array of objects	Comparison information list. For details, see Table 6-218 .

Table 6-218 Data structure description of field **TableLineCompareResultInfo**

Parameter	Type	Description
source_table_name	String	Table name of the source database.
source_row_num	Long	Number of table rows in the source database.
target_table_name	String	Table name of the destination database.
target_row_num	Long	Number of table rows in the destination database.
difference_row_num	Long	Row differences.

Parameter	Type	Description
status	Integer	<p>Comparison status.</p> <ul style="list-style-type: none"> ● 0: The comparison result is inconsistent. ● 2: The comparison result is consistent. ● 3: The destination database table does not exist. ● 4: The comparison failed. ● 5: The comparison task is in progress. ● 6: The comparison task is waiting to be started. ● 7: The comparison task is canceled. ● 8: The source database is empty. ● 9: The destination database is empty. ● 10: Both the source and destination databases are empty. ● 11: The source table does not exist. ● 12: The destination table does not exist. ● 13: Neither the source table nor the destination table exists. ● 14: Failed to connect to the source database. ● 15: Failed to connect to the destination database. ● 16: SQL execution timed out on the source database. ● 17: SQL execution timed out on the destination database. ● 18: A source database SQL execution error occurred. ● 19: A destination database SQL execution error occurred. ● 20: Neither the source database nor the destination database exists. ● 21: The source database does not exist. ● 22: The destination database does not exist. ● 23: The number of rows exceeds 100 million, and the comparison cannot be performed. ● 27: The comparison task timed out.
compare_line_config_filter	String	Row filtering condition.

Example Request

Querying row comparison details

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/f8688cfa-4e05-406f-a2e6-37a773cjb20y/  
table/compare/48c6acb4-1473-48fd-8676-df3705758c27/line-detail?offset=0&limit=10
```

Example Response

Status code: 200

OK

```
{  
  "total_count" : 2,  
  "table_line_compare_result_infos" : [ {  
    "source_table_name" : "tb2",  
    "source_row_num" : 2434882,  
    "target_table_name" : "tb2",  
    "target_row_num" : 2434882,  
    "difference_row_num" : 0,  
    "status" : 2  
  }, {  
    "source_table_name" : "tb1",  
    "source_row_num" : 1,  
    "target_table_name" : "tb1",  
    "target_row_num" : 1,  
    "difference_row_num" : 0,  
    "status" : 2  
  } ]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "DRS.M00202",  
  "error_msg" : "The value of jobId is invalid."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.30 Querying the Value Comparison Overview

Function

This API is used to query the value comparison overview.

URI

GET /v3/{project_id}/jobs/{job_id}/compare/{compare_job_id}/content-overview

Table 6-219 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.
compare_job_id	Yes	String	ID of a comparison task.

Table 6-220 Query parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed per page. Default value: 1000
offset	No	Integer	Offset, which is the position where the query starts. The value must be no less than 0. Default value: 0

Request Parameters

Table 6-221 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Response Parameters

Status code: 200

Table 6-222 Response body parameters

Parameter	Type	Description
total_count	Integer	Comparison quantity.
content_compare_result_infos	Array of objects	Information list. For details, see Table 6-223 .

Table 6-223 Data structure description of field **content_compare_result_infos**

Parameter	Type	Description
source_db	String	Source database name.
target_db	String	Destination database name.

Parameter	Type	Description
status	Integer	<p>Comparison status.</p> <ul style="list-style-type: none"> ● 0: The comparison result is inconsistent. ● 2: The comparison result is consistent. ● 3: The destination database table does not exist. ● 4: The comparison failed. ● 5: The comparison task is in progress. ● 6: The comparison task is waiting to be started. ● 7: The comparison task is canceled. ● 8: The source database is empty. ● 9: The destination database is empty. ● 10: Both the source and destination databases are empty. ● 11: The source table does not exist. ● 12: The destination table does not exist. ● 13: Neither the source table nor the destination table exists. ● 14: Failed to connect to the source database. ● 15: Failed to connect to the destination database. ● 16: SQL execution timed out on the source database. ● 17: SQL execution timed out on the destination database. ● 18: A source database SQL execution error occurred. ● 19: A destination database SQL execution error occurred. ● 20: Neither the source database nor the destination database exists. ● 21: The source database does not exist. ● 22: The destination database does not exist. ● 23: The number of rows exceeds 100 million, and the comparison cannot be performed. ● 27: The comparison task timed out.

Example Request

Querying the value comparison overview

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/f8688cfa-4e05-406f-a2e6-37a773cjb20y/  
table/compare/48c6acb4-1473-48fd-8676-df3705758c27/content-overview?limit=10&offset=0
```

Example Response

Status code: 200

OK

```
{  
  "total_count": 1,  
  "content_compare_result_infos": [ {  
    "status": 2,  
    "source_db": "tb1",  
    "target_db": "tb1"  
  } ]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code": "DRS.M00202",  
  "error_msg": "The value of jobId is invalid."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.31 Querying Value Comparison Details

Function

This API is used to query value comparison details.

URI

GET /v3/{project_id}/jobs/{job_id}/compare/{compare_job_id}/content-detail

Table 6-224 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.
compare_job_id	Yes	String	ID of a comparison task.

Table 6-225 Query parameters

Parameter	Mandatory	Type	Description
target_db_name	No	String	Destination database name.
db_name	No	String	Source database name.
type	No	String	Type. compare : Items that can be compared. unCompare : Items that cannot be compared.
limit	No	Integer	Number of items displayed per page. Default value: 1000
offset	No	Integer	Offset, which is the position where the query starts. The value must be no less than 0. Default value: 0

Request Parameters

Table 6-226 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 6-227 Response body parameters

Parameter	Type	Description
total_count	Integer	Comparison quantity.
content_compare_result_infos	Array of objects	Comparison information list. For details, see Table 6-228 .

Table 6-228 Data structure description of field **content_compare_result_info**

Parameter	Type	Description
source_db	String	Source database name.
target_db	String	Destination database name.
source_table_name	String	Table name of the source database.
target_table_name	String	Table name of the destination database.
source_row_number	Long	Number of table rows in the source database.
target_row_number	Long	Number of table rows in the destination database.
difference_row_number	Long	Difference between the tables in the source and destination databases.
line_compare_result	Boolean	Row comparison result. <ul style="list-style-type: none"> • true: consistent. • false: inconsistent.

Parameter	Type	Description
content_compare_result	Boolean	Value comparison result. <ul style="list-style-type: none">• true: consistent.• false: inconsistent.
message	String	Additional information.
compare_line_config_filter	String	Row filtering condition.

Example Request

Querying value comparison details

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/f8688cfa-4e05-406f-a2e6-37a773cjb20y/table/compare/48c6acb4-1473-48fd-8676-df3705758c27/content-detail?limit=10&offset=0
```

Example Response

Status code: 200

OK

```
{
  "total_count": 2,
  "content_compare_result_infos": [ {
    "source_db": "db2",
    "source_table_name": "tb2",
    "source_row_num": 2434882,
    "target_db": "db2",
    "target_table_name": "tb2",
    "target_row_num": 2434882,
    "difference_row_num": 0,
    "line_compare_result": true,
    "content_compare_result": true
  }, {
    "source_db": "db1",
    "source_table_name": "tb1",
    "source_row_num": 1,
    "target_db": "db1",
    "target_table_name": "tb1",
    "target_row_num": 1,
    "difference_row_num": 0,
    "line_compare_result": true,
    "content_compare_result": true
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.M00202",
  "error_msg": "The value of jobId is invalid."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.32 Querying Value Comparison Differences

Function

This API is used to query value comparison differences.

URI

GET /v3/{project_id}/jobs/{job_id}/compare/{compare_job_id}/content-difference

Table 6-229 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.
compare_job_id	Yes	String	ID of a comparison task.

Table 6-230 Query parameters

Parameter	Mandatory	Type	Description
table_name	No	String	Table name.
db_name	No	String	Source database name.

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records displayed on each page. The maximum value is 1000 . Minimum value: 1 Maximum value: 1000 Default value: 1000
offset	No	Integer	Offset, which is the position where the query starts. The value must be no less than 0. Default value: 0

Request Parameters

Table 6-231 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 6-232 Response body parameters

Parameter	Type	Description
count	Long	Total number of records.
target_meta_is_null	Long	Inconsistency details: The objects were found only in the source database.

Parameter	Type	Description
source_meta_is_null	Long	Inconsistency details: The objects were found only in the destination database.
source_target_meta_not_null	Long	Inconsistency details: The objects were found in the source and destination databases.
contents_infos	Array of objects	List of detailed information. For details, see Table 6-233 .

Table 6-233 Data structure description of field **contents_infos**

Parameter	Type	Description
source_key_value	Array of strings	Key value list of the source database.
target_key_value	Array of strings	Key value list of the destination database.
select_sql	String	Query the SQL statements of the source database.
target_select_sql	String	Query the SQL statements of the destination database.

Example Request

Querying value comparison differences

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/f8688cfa-4e05-406f-a2e6-37a773cjb20y/compare/48c6acb4-1473-48fd-8676-df3705758c27/content-difference?limit=10&offset=0
```

Example Response

Status code: 200

OK

```
{
  "count" : 1,
  "target_meta_is_null" : 0,
  "source_meta_is_null" : 0,
  "source_target_meta_not_null" : 1,
  "contents_infos" : [ {
    "source_key_value" : [ "id=5" ],
    "target_key_value" : [ "id=5" ],
    "select_sql" : "select * from db1.tb1 where id=5",
    "target_select_sql" : "select * from db1.tb1 where id=5"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.1000010",
  "error_msg" : "Task not found. Check the task ID."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.33 Creating an Object-level Comparison Task

Function

This API is used to create an object-level comparison task.

URI

POST /v3/{project_id}/jobs/{job_id}/object/compare

Table 6-234 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 6-235 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 6-236 Request body parameters

Parameter	Mandatory	Type	Description
compare_task_num	No	Integer	Number of comparison task threads. This parameter is supported only for tasks of cloudDataGuard-cassandra and cloudDataGuard-gausscassandra-to-gausscassandra.

Response Parameters

None

Example Request

Creating an object-level comparison task

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/a2b4999c-0acf-45eb-843d-5c1cdb2jb201/object/compare
```

```
{
  "compare_task_num" : 2
}
```

Example Response

Status code: 202

OK

```
{}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10000024",
  "error_msg" : "Another operation is being performed on the migration task or the migration task is
```

```
abnormal."
}
```

Status Code

Status Code	Description
202	OK
400	Bad Request

Error Code

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

6.1.34 Querying the Overview of an Object Comparison Task

Function

This API is used to query the overview of an object comparison task.

URI

GET /v3/{project_id}/jobs/{job_id}/object/compare

Table 6-237 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 6-238 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 6-239 Response body parameters

Parameter	Type	Description
create_time	String	Time when a comparison task is created. The value is a UTC time, for example, 2024-04-09T07:00:57Z .
start_time	String	Time when a comparison task starts. The value is a UTC time, for example, 2024-04-09T07:00:57Z .
status	String	Status of a comparison task. Value: <ul style="list-style-type: none"> • RUNNING: The comparison task is in progress. • WAITING_FOR_RUNNING: The comparison task is waiting to be started. • SUCCESSFUL: The comparison task is complete. • FAILED: The comparison task fails. • CANCELLED: The comparison task is canceled. • TIMEOUT_INTERRUPT: The comparison task times out. • FULL_DOING: Full verification is in progress. • INCRE_DOING: Incremental verification is in progress.

Parameter	Type	Description
export_status	String	Status of generating a comparison result file. The values are as follows: <ul style="list-style-type: none">• INIT: indicates that the comparison result export is in the initial status.• EXPORTING: indicates that the comparison result is being exported.• EXPORT_COMPLETE: indicates that the comparison result is exported.• EXPORT_COMMON_FAILED: indicates that the comparison result fails to be exported.
report_remain_seconds	Long	Remaining validity period of a comparison result file, in seconds. If the report is not generated, -1 is returned.
compare_job_id	String	ID of a comparison task.
error_msg	String	Failure cause.
compare_result	Array of objects	Comparison result. For details, see Table 6-240 .

Table 6-240 Data structure description of field **compare_result**

Parameter	Type	Description
type	String	Object type. The values are as follows: <ul style="list-style-type: none"> ● DB: indicates a database. ● TABLE: indicates a table. ● VIEW: indicates a view. ● EVENT: indicates an event. ● ROUTINE: indicates a stored procedure and function. ● INDEX: indicates an index. ● TRIGGER: indicates a trigger. ● SYNONYM: indicates a synonym. ● FUNCTION: indicates a function. ● PROCEDURE: indicates a stored procedure. ● TYPE: indicates a user-defined type. ● RULE: indicates a rule. ● DEFAULT_TYPE: indicates a default value. ● PLAN_GUIDE: indicates an execution plan. ● CONSTRAINT: indicates a constraint. ● FILE_GROUP: indicates a file group. ● PARTITION_FUNCTION: indicates a partition function. ● PARTITION_SCHEME: indicates a partition scheme. ● TABLE_COLLATION: indicates table collation. ● EXTENSIONS: indicates a plug-in.
source_count	Long	Number of objects of this type in the source database.
target_count	Long	Number of objects of this type in the destination database.
status	Integer	Comparison result. The value 0 indicates that the result is inconsistent, the value 2 indicates that the result is consistent, and the value 3 indicates the comparison is incomplete.

Example Request

Querying the overview of an object comparison task

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/f8688cfa-4e05-406f-a2e6-37a773cjb20y/object/compare
```

Example Response

Status code: 200

OK

```
{
  "status": "SUCCESSFUL",
  "create_time": "2024-04-02T06:17:56Z",
  "compare_result": [ {
    "type": "DB",
    "status": 2,
    "source_count": 2,
    "target_count": 2
  }, {
    "type": "TABLE",
    "status": 2,
    "source_count": 2,
    "target_count": 2
  }, {
    "type": "INDEX",
    "status": 2,
    "source_count": 2,
    "target_count": 2
  }, {
    "type": "TABLE_COLLATION",
    "status": 2,
    "source_count": 2,
    "target_count": 2
  } ],
  "start_time": "2024-04-02T06:17:49Z",
  "export_status": "INIT",
  "report_remain_seconds": -1,
  "compare_job_id": "bfcdc4d9-f0ae-4108-be42-6974d60cd1d2"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.1000010",
  "error_msg": "Task not found. Check the task ID."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.35 Querying Details About an Object Comparison Task

Function

This API is used to query details about an object comparison task.

URI

GET /v3/{project_id}/jobs/{job_id}/object/compare/{compare_type}

Table 6-241 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Parameter	Mandatory	Type	Description
compare_type	Yes	String	<p>Object type, which can be:</p> <ul style="list-style-type: none"> ● DB: indicates a database. ● TABLE: indicates a table. ● VIEW: indicates a view. ● EVENT: indicates an event. ● ROUTINE: indicates a stored procedure and function. ● INDEX: indicates an index. ● TRIGGER: indicates a trigger. ● SYNONYM: indicates a synonym. ● FUNCTION: indicates a function. ● PROCEDURE: indicates a stored procedure. ● TYPE: indicates a user-defined type. ● RULE: indicates a rule. ● DEFAULT_TYPE: indicates a default value. ● PLAN_GUIDE: indicates an execution plan. ● CONSTRAINT: indicates a constraint. ● FILE_GROUP: indicates a file group. ● PARTITION_FUNCTION: indicates a partition function. ● PARTITION_SCHEME: indicates a partition scheme. ● TABLE_COLLATION: indicates table collation.

Table 6-242 Query parameters

Parameter	Mandatory	Type	Description
compare_job_id	No	String	ID of a comparison task. If this parameter is not specified, the latest comparison task information is returned by default.
limit	No	Integer	Number of records displayed on each page. The maximum value is 1000 . Minimum value: 1 Maximum value: 1000 Default value: 1000
offset	No	Integer	Offset, which is the position where the query starts. The value must be no less than 0. Default value: 0

Request Parameters

Table 6-243 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Response Parameters

Status code: 200

Table 6-244 Response body parameters

Parameter	Type	Description
count	Integer	Comparison quantity.
compare_detail	Array of objects	Object comparison details. For details, see Table 6-245 .

Table 6-245 Data structure description of field **compare_detail**

Parameter	Type	Description
source_db_name	String	Source database name.
target_db_name	String	Destination database name.
source_db_value	String	Value in the source database.
target_db_value	String	Value in the destination database.
status	Integer	Comparison result. The value 0 indicates that the result is inconsistent, the value 2 indicates that the result is consistent, and the value 3 indicates the comparison is incomplete.
error_message	String	Error message.

Example Request

Querying table comparison details about an object comparison task

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/f8688cfa-4e05-406f-a2e6-37a773cjb20y/object/compare/TABLE
```

Example Response

Status code: 200

OK

```
{
  "count" : 1,
  "compare_detail" : [ {
    "source_db_value" : "tb1",
    "target_db_value" : "tb1",
    "source_db_name" : "db1",
    "target_db_name" : "db1",
    "status" : 2
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10000010",
  "error_msg" : "Task not found. Check the task ID."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.36 Exporting the Result File of a Comparison Task

Function

This API is used to export the comparison result file.

URI

POST /v3/{project_id}/jobs/{job_id}/compare/result/file

Table 6-246 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 6-247 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn
Region	Yes	String	Region ID, for example, cn-north-4 .

Table 6-248 Request body parameters

Parameter	Mandatory	Type	Description
compare_type	Yes	String	Type of a comparison task. <ul style="list-style-type: none"> • contents: value comparison. • lines: row comparison. • random: sampling comparison. • objects_comparison: object-level comparison.
compare_job_id	No	String	ID of a comparison task. This parameter is mandatory in value comparison, sampling comparison, and row comparison scenarios.
time_zone	No	String	Time zone, for example, GMT +08:00. This parameter is used to generate the current time identifier and is added to a file name.

Response Parameters

None

Example Request

- Exporting the result file of an object comparison task
`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/f8688cfa-4e05-406f-a2e6-37a773cjb20ycompare/result/file`

```
{  
  "compare_type": "objects_comparison"  
}
```
- Exporting the result file of a value comparison task
`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/f8688cfa-4e05-406f-a2e6-37a773cjb20ycompare/result/file`

```
{  
  "compare_type": "contents",  
  "compare_job_id": "9406224c-8063-436a-8fe2-796d87f054dc"  
}
```

Example Response

Status code: 200

OK

```
""
```

Status code: 400

Bad Request

```
{  
  "error_code": "DRS.10000010",  
  "error_msg": "Task not found. Check the task ID."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.1.37 Downloading the Result File of a Comparison Task

Function

This API is used to download the comparison result file.

URI

GET /v3/{project_id}/jobs/{job_id}/compare/result/file

Table 6-249 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 6-250 Query parameters

Parameter	Mandatory	Type	Description
compare_type	No	String	Type of a comparison task. <ul style="list-style-type: none">• contents: value comparison.• lines: row comparison.• random: sampling comparison.• objects_comparison: object-level comparison.
compare_job_id	No	String	ID of a comparison task. This parameter is mandatory in value comparison, sampling comparison, and row comparison scenarios.

Request Parameters

Table 6-251 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn
Region	No	String	Region ID, for example, cn-north-4 .

Table 6-252 Request body parameters

Parameter	Mandatory	Type	Description
compare_type	Yes	String	Type of a comparison task. <ul style="list-style-type: none"> • contents: value comparison. • lines: row comparison. • random: sampling comparison. • objects_comparison: object-level comparison.
compare_job_id	No	String	ID of a comparison task. This parameter is mandatory in value comparison, sampling comparison, and row comparison scenarios.
time_zone	No	String	Time zone, for example, GMT +08:00. This parameter is used to generate the current time identifier and is added to a file name.

Response Parameters

None

Example Request

Downloading the result file of a comparison task

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/f8688cfa-4e05-406f-a2e6-37a773cjb20ycompare/result/file?compare_type=objects_comparison
```


Example Response

Status code: 200

OK

The response body is in the file stream format, and the downloaded file is in the .xlsx format.

Status code: 400

Bad Request

```
{  
  "error_code" : "DRS.10000010",  
  "error_msg" : "Task not found. Check the task ID."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.2 Real-Time Migration Management

6.2.1 Updating Migrated User Information in Batches

Function

This API is used to set the users and roles to be migrated in batches.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

This API is supported only in migration scenarios and PostgreSQL synchronization.

URI

PUT /v3/{project_id}/jobs/batch-update-user

Table 6-253 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-254 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none">• en-us• zh-cn

Table 6-255 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	Requests for updating migrated users in batches. For details, see Table 6-256 .

Table 6-256 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.
password	No	String	Global password.

Parameter	Mandatory	Type	Description
list	No	Array of objects	User migration information. This parameter is mandatory when a user is migrated. For details, see Table 6-257 .
user_roles	No	Array of objects	Role migration information. This parameter is mandatory when a user is migrated. For details, see Table 6-258 .
is_set_password	Yes	Boolean	Whether to set a password
is_migrate_user	Yes	Boolean	Whether to migrate users.
is_sync_object_privilege	No	Boolean	Whether to synchronize permissions. If this parameter is not specified, the default value is false . This parameter is used for PostgreSQL synchronization.

Table 6-257 Data structure description of field list

Name	Mandatory	Type	Description
id	Yes	String	User ID.
account	Yes	String	User.
comment	No	String	Description.
is_transfer	Yes	Boolean	Whether migration is supported.
privileges	No	String	Permissions.
password	No	String	Password.
is_set_password	No	Boolean	Whether to reset the password.
roles	Yes	Array of strings	Role.
selected	Yes	Boolean	Whether to select.

Table 6-258 Data structure description of field **user_roles**

Name	Mandatory	Type	Description
role	Yes	String	Role.
comment	No	String	Description.
is_transfer	Yes	Boolean	Whether migration is supported.
privileges	Yes	String	Permissions.
inherits_roles	No	Array of strings	Inherited roles.
selected	No	Boolean	Whether to select. If this parameter is left blank, migration is not performed by default.

Response Parameters

Status code: 200

Table 6-259 Response body parameters

Parameter	Type	Description
all_counts	Integer	Total number.
results	Array of objects	Migrate user information. For details, see Table 6-260 .

Table 6-260 Data structure description of field **results**

Parameter	Type	Description
job_id	String	Task ID.
is_global_password	String	Whether to use the global password.
message	String	Error code.
user_list	Array of objects	User list data. For details, see Table 6-261 .
roles_list	Array of objects	Role list data. For details, see Table 6-262 .
is_success	Boolean	Whether the request is successful.

Table 6-261 Data structure description of field **user_list**

Parameter	Type	Description
id	String	Account ID.
account	String	Account.
comment	String	Description.
is_transfer	Boolean	Whether to migrate.
privileges	Array of strings	Permissions.
password	String	Password.
roles	Array of strings	Role of the user.
selected	Boolean	Whether to select.
no_privileges	String	User permissions cannot be synchronized.
parent_account	String	Parent user
no_parent_account	String	The parent user with the parent-child relationship cannot be synchronized.

Table 6-262 Data structure description of field **roles_list**

Parameter	Type	Description
role	String	Role.
comment	String	Description.
is_transfer	Boolean	Whether to migrate.
privileges	String	Permissions.
inherits_roles	Array of strings	Inherited role.
selected	Boolean	Whether to select.

Example Request

- Setting users to be migrated for a specified task

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-update-user
```

```
{
  "jobs": [{
    "is_migrate_user": true,
    "is_set_password": false,
    "job_id": "36c368d7-c03f-46e1-839a-b5c5bddjb105",
```

```

"list": [{
  "account": "admin.testuser2",
  "comment": "",
  "id": "admin.testuser2",
  "is_set_password": true,
  "is_transfer": true,
  "password": null,
  "privileges": null,
  "roles": ["admin.clusterAdmin"],
  "selected": true
}],
"password": "",
"user_roles": [{
  "comment": "",
  "inherits_roles": [
    "admin.roletest1",
    "admin.roletest3",
    "fastunit.roletest1"
  ],
  "is_transfer": true,
  "privileges": "[{u'resource': {u'cluster': True}, u'actions': [u'addShard']}, {u'resource': {u'db': u'fastunit', u'collection': u'coll'}, u'actions': [u'find', u'insert', u'remove', u'update']}, {u'resource': {u'db': u'mgo', u'collection': u'mycollection3'}, u'actions': [u'insert', u'remove', u'update']}, {u'resource': {u'db': u'', u'collection': u''}, u'actions': [u'find']}, {u'resource': {u'db': u'admin', u'collection': u''}, u'actions': [u'find']}]",
  "role": "admin.roletest4",
  "selected": true
}]
}

```

- Setting users that do not need to be migrated for a specified task
<https://{endpoint}/v3/0549a6a31000d4e82fd1c00c3d6f2d76/jobs/batch-update-user>

```

{
  "jobs": [ {
    "is_migrate_user": false,
    "is_set_password": false,
    "job_id": "a281f62f-4631-45d6-a2d3-679a9f4jb105"
  } ]
}

```

Example Response

Status code: 200

OK

```

{
  "all_counts": 1,
  "results": [ {
    "job_id": "71604be1-f441-42f1-a09f-c5a52f0djb15",
    "is_success": true
  } ]
}

```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.2.2 Obtaining Migration Users of the Source Database

Function

This API is used to query the user information of the source database.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

This parameter is available only in the migration scenario and PostgreSQL synchronization.

URI

GET /v3/{project_id}/jobs/{job_id}/get-src-user

Table 6-263 Path parameters

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-264 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 6-265 Response body parameters

Parameter	Type	Description
job_id	String	Task ID.
is_global_password	String	Whether to use the global password.
message	String	Error code.
user_list	Array of objects	User list data. For details, see Table 6-266 .
roles_list	Array of objects	Role list data. For details, see Table 6-267 .
is_success	Boolean	Whether the request is successful.

Table 6-266 Data structure description of field **user_list**

Parameter	Type	Description
id	String	Account ID.
account	String	Account.
comment	String	Description.
is_transfer	Boolean	Whether migration is supported.
privileges	String	Permissions.
password	String	Password.
roles	Array of strings	Role of the user.
selected	Boolean	Whether to select.

Parameter	Type	Description
no_privileges	String	User permissions cannot be synchronized.
parent_account	String	Parent user
no_parent_account	String	The parent user with the parent-child relationship cannot be synchronized.

Table 6-267 Data structure description of field **roles_list**

Parameter	Type	Description
role	String	Role.
comment	String	Description.
is_transfer	Boolean	Whether migration is supported.
privileges	String	Permissions.
inherits_roles	Array of strings	Inherited role.
selected	Boolean	Whether to select.

Example Request

```
https://{endpoint}/v3/0549a6a31000d4e82fd1c00c3d6f2d76/jobs/7f3aaf02-b994-4450-b3fb-6314aa9jb105/get-src-user
```

Example Response

Status code: 200

OK

```
{
  "message": "SUCCESS",
  "user_list": [ {
    "id": "admin.testuser2",
    "account": "admin.testuser2",
    "comment": "",
    "privileges": null,
    "password": null,
    "roles": [ "admin.clusterAdmin" ],
    "selected": null,
    "is_transfer": true
  }, {
    "id": "admin.test_inc_admin_mgo",
    "account": "admin.test_inc_admin_mgo",
    "comment": "",
    "privileges": null,
    "password": null,
    "roles": [ "mgo.read", "admin.readAnyDatabase", "local.read" ],
    "selected": null,
    "is_transfer": true
  }
]
```

```
}, {
  "id": "fastunit.test_full_fastunit_noread",
  "account": "fastunit.test_full_fastunit_noread",
  "comment": "",
  "privileges": null,
  "password": null,
  "roles": [ "admin.readAnyDatabase" ],
  "selected": null,
  "is_transfer": true
}, {
  "id": "admin.test_full",
  "account": "admin.test_full",
  "comment": "",
  "privileges": null,
  "password": null,
  "roles": [ "fastunit.read", "admin.readAnyDatabase" ],
  "selected": null,
  "is_transfer": true
} ],
"roles_list": [ {
  "role": "admin.roletest4",
  "comment": "",
  "privileges": "GRANT 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 ON *.* GRANT XA_RECOVER_ADMIN ON *.*",
  "selected": null,
  "is_transfer": true,
  "inherits_roles": [ "admin.roletest1", "admin.roletest3", "fastunit.roletest1" ]
} ]
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

6.3 Real-Time Synchronization Management

6.3.1 Processing Data in Batches

Function

This API is used to add rules for data processing.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

- You can call the API for starting a task only after the task is created and database objects are selected. For details, see [Task Creation Process](#).
- Each table has only one verification rule.
- The Oracle source database supports a maximum of 20,000 tables at a time, and the MySQL source database supports a maximum of 10,000 tables at a time.
- The filter criteria do not support the package, function, variable, and constant that are unique to a certain database engine. You must use standardized SQL.

URI

POST /v3/{project_id}/jobs/batch-transformation

Table 6-268 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-269 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none">• en-us• zh-cn

Table 6-270 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	Requests for adding data processing rules in batches. For details, see Table 6-271 .

Table 6-271 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
job_id	No	String	Task ID.
object_info	No	Array of objects	Object information. This parameter is mandatory when a processing rule is generated. For details, see Table 6-272 .
transformation_info	Yes	Object	Processing information. For details, see Table 6-273 .
config_transformation	No	Object	<ul style="list-style-type: none"> • Configuration information. If there are multiple associated tables, generate multiple configuration rules. The data that meets the configuration conditions is temporarily stored in the cache and used in the data filtering scenario. • The database name and table name can contain digits, letters, and underscores (_). • Ensure that the column names, primary keys, and indexes are the same as those in the source database. For details, see Table 6-274 .

Table 6-272 Data structure description of field **object_info**

Parameter	Mandatory	Type	Description
id	No	String	Database name and database table name. For example, the format is lxl_test1-*-*-test_1 , where lxl_test1 is the database name and test_1 is the table name.
select	No	String	Whether to select advanced configuration. The value is true .

Table 6-273 Data structure description of field **transformation_info**

Parameter	Mandatory	Type	Description
transformation_type	Yes	String	<ul style="list-style-type: none"> The processing rule value is contentConditionalFilter. The configuration rule value is configConditionalFilter. Values: <ul style="list-style-type: none"> contentConditionalFilter configConditionalFilter
value	Yes	String	Filter criteria. The processing rule value is a SQL statement, and the configuration rule value is config . The value contains a maximum of 256 characters.

Table 6-274 Data structure description of field **config_transformation**

Parameter	Mandatory	Type	Description
db_table_name	Yes	String	<i>Database-name.Table-name</i> , for example, lxl_test1.test_1 , where lxl_test1 is the database name and test_1 is the table name.
db_name	Yes	String	Database name. The value contains a maximum of 256 characters.

Parameter	Mandatory	Type	Description
table_name	Yes	String	Table name The value contains a maximum of 256 characters.
col_names	Yes	String	Column name The value contains a maximum of 256 characters.
prim_key_or_index	Yes	String	Primary key or unique index The value contains a maximum of 256 characters.
indexs	Yes	String	Index that requires optimization. The value contains a maximum of 256 characters.
values	Yes	String	Filtering criteria. The value contains a maximum of 256 characters.

Response Parameters

Status code: 200

Table 6-275 Response body parameters

Parameter	Type	Description
results	Array of objects	Batch data processing response list. For details, see Table 6-276 .
count	integer	Total number.

Table 6-276 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.
status	String	Status Values: <ul style="list-style-type: none"> • success • failed
error_code	String	Error code.
error_msg	String	Error message.

Example Request

- Generating configuration rules for MySQL synchronization task data
<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-transformation>

```
{
  "jobs": [ {
    "job_id": "e894593d-5e0a-4652-af7e-1b0c239jb201",
    "object_info": [ ],
    "transformation_info": {
      "transformation_type": "configConditionalFilter",
      "value": "config"
    },
    "config_transformation": {
      "col_names": "id,name",
      "db_name": "lxl_test1",
      "db_table_name": "lxl_test1.test_1",
      "indexs": "name",
      "prim_key_or_index": "id",
      "table_name": "test_1",
      "values": "name like '%a%'"
    }
  }
]
```

- Generating processing rules for MySQL synchronization task data, in which the table name is **lxl_test1.test_1**, and the filtering condition is **id>5**.
<https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-transformation>

```
{
  "jobs": [ {
    "job_id": "e894593d-5e0a-4652-af7e-1b0c239jb201",
    "object_info": [ {
      "id": "lxl_test1-*-*test_1",
      "select": "true"
    } ],
    "transformation_info": {
      "transformation_type": "contentConditionalFilter",
      "value": "id>5"
    }
  }
]
```

Example Response

Status code: 200

OK

```
{
  "count": 1,
  "results": [ {
    "id": "e894593d-5e0a-4652-af7e-1b0c239jb201",
    "status": "success"
  } ]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.3.2 Configuring Synchronization Policies in Batches

Function

- This API is used to configure synchronization policies in batches, including conflict policies, DROP DATASE filtering, and object synchronization scope.
- This API is used to configure Kafka synchronization policies.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

- This API can be called only after a task is created, the task status is **CONFIGURATION**, the test of connections to the source and destination databases is successful, and the API for modifying the task is successfully called.
- Kafka synchronization policies can be configured for the following data flow scenarios: synchronization from PostgreSQL to Kafka, from Oracle to Kafka, from GaussDB to Kafka, from GaussDB(for MySQL) to Kafka, and from MySQL to Kafka.
- GaussDB(for MySQL)-to-Kafka synchronization and MySQL-to-Kafka synchronization allow you to modify the Kafka policy configuration when the task is in the **INCRE_TRANSFER_STARTED** state. After the configuration is modified, you can edit the synchronization objects only when the task status changes to **INCRE_TRANSFER_STARTED**.

URI

POST /v3/{project_id}/jobs/batch-sync-policy

Table 6-277 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-278 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 6-279 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	List of requests for setting synchronization policies in batches. For details, see Table 6-280 .

Table 6-280 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.
conflict_policy	No	String	Conflict policy. Values: <ul style="list-style-type: none"> • ignore: Ignore the conflict. • overwrite: Overwrite the existing data with the conflicting data. • stop: Report an error.
filter_ddl_policy	No	String	DDL filtering policy. Value: drop_database

Parameter	Mandatory	Type	Description
ddl_trans	No	Boolean	Whether to synchronize DDL during incremental synchronization.
index_trans	No	Boolean	Whether to synchronize indexes during incremental synchronization.

Parameter	Mandatory	Type	Description
topic_policy	No	String	<p>Topic synchronization policy. This parameter is mandatory when destination database is Kafka.</p> <p>Values for synchronization from GaussDB Distributed to Kafka:</p> <ul style="list-style-type: none"> • 0: A specified topic • 1: Automatically generated using the <i>database_name-schema_name-table_name</i> format • 2: Automatically generated based on the database name • 3: Automatically generated using the <i>database_name-schema_name</i> format • 4: Automatically generated using the <i>database_name-DN_sequence_number</i> format <p>Values for synchronization from GaussDB Primary/Standby to Kafka and from PostgreSQL to Kafka:</p> <ul style="list-style-type: none"> • 0: A specified topic • 1: Automatically generated using the <i>database_name-schema_name-table_name</i> format • 2: Automatically generated based on the database name • 3: Automatically generated using the <i>database_name-schema_name</i> format <p>Values for synchronization from Oracle to Kafka:</p> <ul style="list-style-type: none"> • 0: A specified topic • 1: Automatically generated using the <i>schema_name-table_name</i> format • 3: Automatically generated based on the schema name

Parameter	Mandatory	Type	Description
			<p>Values for synchronization from MySQL to Kafka:</p> <ul style="list-style-type: none"> ● 0: A specified topic ● 1: Auto-generated topics <p>Values for synchronization from GaussDB(for MySQL) to Kafka:</p> <ul style="list-style-type: none"> ● 0: A specified topic ● 1: Auto-generated topics
topic	No	String	Topic name. This parameter is mandatory when topic_policy is set to 0 . Ensure that the topic exists.

Parameter	Mandatory	Type	Description
partition_policy	No	String	<p>The policy for synchronizing topics to the Kafka partitions. This parameter is mandatory when the destination database is Kafka..</p> <ul style="list-style-type: none"> ● 0: Partitions are differentiated by the hash values of <i>database_name.schema_name.table_name</i> ● 1: Topics are synchronized to partition 0 ● 2: Partitions are identified by the hash values of the primary key ● 3: Partitions are differentiated by the hash values of <i>database_name.schema_name</i> ● 4: Partitions are differentiated by the hash values of <i>database_name.DN_sequence_number</i> (This value is available only for synchronization from GaussDB Distributed to Kafka.) ● 5: Partitions are differentiated by the hash values of non-primary-key columns <p>When topic_policy is set to 0, the value can be 0, 1, 2, 3, 4, or 5. When topic_policy is set to 1, the value can be 1, 2, or 5. When topic_policy is set to 2, the value can be 0, 1, 3, or 4. When topic_policy is set to 3, the value can be 0 or 1. When topic_policy is set to 4, the value can be 0, 1, or 3.</p>

Parameter	Mandatory	Type	Description
kafka_data_format	No	String	<p>Data format delivered to Kafka. Available options:</p> <ul style="list-style-type: none">• json• avro• json_c <p>If this parameter is left blank, the default value is json.</p> <p>NOTE</p> <ul style="list-style-type: none">• The value can be json and json_c for synchronization from MySQL to Kafka and from GaussDB(for MySQL) to Kafka.• The value can be json and avro for other synchronization scenarios.

Parameter	Mandatory	Type	Description
topic_name_format	No	String	<p>The topic name format. This parameter is required if topic_policy is set to 1, 2, or 3.</p> <p>Values for synchronization from PostgreSQL to Kafka and synchronization from GaussDB primary/standby to Kafka:</p> <ul style="list-style-type: none"> • If topic_policy is set to 1, the topic name supports the database and schema names as variables. Other characters are considered as constants. \$database\$ indicates the database name, and \$schema\$ indicates the schema name. The default value is <i>\$database\$-\$schema\$</i>. • If topic_policy is set to 2, the topic name supports the database name as a variable. Other characters are regarded as constants. If this parameter is left blank, the default value is \$database\$. • If topic_policy is set to 3, the topic name supports the names of database, schema, and table as variables. Other characters are considered as constants. \$database\$ indicates the database name, \$schema\$ indicates the schema name, and \$tablename\$ indicates the table name. The default value is <i>\$database\$-\$schema\$-\$tablename\$</i>. <p>Values for synchronization from Oracle to Kafka:</p> <ul style="list-style-type: none"> • If topic_policy is set to 1, the topic name supports the schema and table names as variables. Other characters are considered

Parameter	Mandatory	Type	Description
			<p>as constants. Replace <code>\$schema\$</code> with the schema name and <code>\$tablename\$</code> with the table name. If this parameter is left blank, the default value is <code>\$schema\$-\$tablename\$</code>.</p> <ul style="list-style-type: none"> If topic_policy is set to 3, the topic name supports the schema name as variables. Other characters are considered as constants. Replace <code>\$schema\$</code> with the schema name. If this parameter is left blank, the default value is <code>\$schema\$</code>. <p>Values for synchronization from MySQL to Kafka and from GaussDB(for MySQL) to Kafka:</p> <ul style="list-style-type: none"> If topic_policy is set to 1, the topic name supports the database and table names as variables. Other characters are considered as constants. Replace \$database\$ with the database name and \$tablename\$ with the table name. If this parameter is left blank, the default value is <code>\$database \$-\$tablename\$</code>.
partitions_num	No	String	Number of partitions. The value ranges from 1 to 2147483647. This parameter is mandatory if topic_policy is set to 1 , 2 , or 3 . If this parameter is left blank, the default value is 1 .
replication_factor	No	String	Number of replicas. The value ranges from 1 to 32767. This parameter is mandatory if topic_policy is set to 1 , 2 , or 3 . If this parameter is left blank, the default value is 1 .

Parameter	Mandatory	Type	Description
is_fill_materialized_view	No	Boolean	Whether to fill the materialized view in the PostgreSQL full migration/synchronization phase. If this parameter is not specified, the default value is false .
export_snapshot	No	Boolean	Whether to export data in snapshot mode in the PostgreSQL full migration/synchronization phase. If this parameter is not specified, the default value is false .
slot_name	No	String	Replication slot name. This parameter is mandatory for tasks from GaussDB Primary/Standby to Kafka.

Parameter	Mandatory	Type	Description
file_and_position	No	String	<ul style="list-style-type: none"> When MySQL serves as the source database, run show master status to obtain the start point of the source database and set File and Position as prompted. For example, mysql-bin.000277:805, in which the file name can contain only 1 to 60 characters and cannot contain the following special character <code><>&:'"/\</code>, the file number can contain only 3 to 20 digits, the binlog event position can contain only 1 to 20 digits, and the total length cannot exceed 100 characters. The value is in the format of File_name.file_number:Event_position. When MongoDB serves as the source database, the source database logs are obtained from within the time range of the oplog, starting with the current start position. To check whether the start position is within the oplog time range, run db.getReplicationInfo() for a non-cluster instance, and for a cluster instance, run db.watch([], {startAtOperationTime: Timestamp(xx, xx)}), where <i>xx</i> is the start position you specified. The value is in the format of timestamp:incr. The values of timestamp and incr are integers ranging from 1 to 2,147,483,647.

Parameter	Mandatory	Type	Description
gtid_set	No	String	<ul style="list-style-type: none"> This parameter is mandatory for tasks whose source database is MySQL. Run show master status to obtain the start point of the source database and set Executed_Gtid_Set as prompted. (If the source database is MySQL 5.5, synchronization tasks are not supported.) Enter a maximum of 2048 characters. Chinese characters and the following special characters are not allowed: < > & " ' / \\ \\
ddl_topic	No	String	<p>Topic for storing DDLs. This parameter is mandatory when Kafka is the destination database and ddl_trans is set to true.</p> <p>Value: name of an existing topic in the destination database.</p>

Response Parameters

Status code: 200

Table 6-281 Response body parameters

Parameter	Type	Description
count	Integer	Total number.
results	Array of objects	List of returned synchronization policies that are configured in batches. For details, see Table 6-282 .

Table 6-282 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.

Parameter	Type	Description
status	String	Status Values: <ul style="list-style-type: none"> ● success: The task is successful. ● failed: The task fails.
error_code	String	Error code.
error_msg	String	Error message.

Example Request

- Configuring synchronization task policies in batches, in which **conflict_policy** is set to **ignore**, **ddl_trans** is set to **true**, and **filter_ddl_policy** is set to **drop_database**

`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-sync-policy`

```
{
  "jobs": [{
    "conflict_policy": "ignore",
    "ddl_trans": true,
    "filter_ddl_policy": "drop_database",
    "index_trans": true,
    "job_id": "19557d51-1ee6-4507-97a6-8f69164jb201"
  }]
}
```

- Configuring MySQL incremental synchronization task policies in batches:

`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-sync-policy`

```
{
  "jobs": [
    {
      "conflict_policy": "ignore",
      "ddl_trans": true,
      "filter_ddl_policy": "drop_database",
      "index_trans": true,
      "job_id": "19557d51-1ee6-4507-97a6-8f69164jb201",
      "file_and_position": "mysql-bin.000019:197",
      "gtid_set": "e4979f26-4bc3-11ee-b279-fa163ef21d64:1-23"
    }
  ]
}
```

Example Response

Status code: 200

OK

```
{
  "results": [ {
    "id": "19557d51-1ee6-4507-97a6-8f69164jb201",
    "status": "success"
  } ],
  "count": 1
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.3.3 Advanced Settings

Function

This API is used to change the values of tuning parameters.

URI

PUT /v3/{project_id}/job/{job_id}/tuning-params/modify-params

Table 6-283 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
job_id	Yes	String	Task ID of a tenant in a region. If the task is a primary/standby task, the parent task ID is used. For details about how to obtain the task ID, see Obtaining a Task ID .

Request Parameters

Table 6-284 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The value is application/json .

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Table 6-285 Request body parameters

Parameter	Mandatory	Type	Description
full_sync	No	Map<String,String>	Names and values of full migration parameters.
incre_capture	No	Map<String,String>	Names and values of incremental capture parameters.
incre_apply	No	Map<String,String>	Names and values of incremental replay parameters.
incre_relay	No	Map<String,String>	Names and values of incremental log extraction parameters. slotAdvanceInterval : the interval for advancing the logical replication slot of the source database.
recovery	No	Boolean	Initialization parameter. The value must be set to true for the first invoking. In other cases, this parameter is not specified.

Response Parameters

Status code: 200

Table 6-286 Response body parameters

Parameter	Type	Description
full_sync	Array of objects	Full migration tuning parameters. For details, see Table 6-287 .
incre_capture	Array of objects	Incremental capture tuning parameters. For details, see Table 6-287 .
incre_apply	Array of objects	Incremental replay tuning parameters. For details, see Table 6-287 .
incre_relay	Array of objects	Incremental log extraction tuning parameters. For details, see Table 6-287 .
modify_result	String	Whether the parameter modification is successful.

Table 6-287 Data structure description of fields **full_sync**, **incre_capture**, **incre_apply**, and **incre_relay**

Parameter	Type	Description
param_name	String	Parameter name.
param_value	String	Parameter value.
availability	String	Available or not.

Example Request

- Setting the interval for advancing the logical replication slot of the specified source database for the task from GaussDB primary/standby to Kafka
<https://{endpoint}/v3/054c06d8aa00d39e2f6cc00176952b8b/job/1e3f710f-4df3-4fc9-8a29-0ec72c5jb2b3/tuning-params/modify-params>

```
{
  "incre_relay" : {
    "slotAdvanceInterval" : "5"
  }
}
```

- Example of initializing advanced parameters
<https://{endpoint}/v3/054c06d8aa00d39e2f6cc00176952b8b/job/1e3f710f-4df3-4fc9-8a29-0ec72c5jb2b3/tuning-params/modify-params>

```
{
  "recovery" : true
}
```

Example Response

Status code: 200

OK

```
{
  "full_sync" : [],
  "incr_capture" : [],
  "incr_apply" : [],
  "incr_relay" : [ {
    "param_name" : "slotAdvanceInterval",
    "param_value" : "5"
  } ],
  "modify_result" : "success"
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

6.4 Real-Time Disaster Recovery Management

6.4.1 Performing Primary/Standby Switchovers in Batches

Function

This API is used to perform primary/standby switchovers in batches.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

This API only applies to tasks in the **Disaster recovery in progress** or **Disaster recovery failed** status. A switchover can be performed when the DR database can be properly connected. Dual-active DR does not support the switchover.

URI

POST /v3/{project_id}/jobs/batch-switchover

Table 6-288 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-289 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none">• en-us• zh-cn

Table 6-290 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of strings	IDs of batch primary/standby switchover tasks.

Response Parameters

Status code: 202

Table 6-291 Response body parameters

Parameter	Type	Description
results	Array of objects	Returned of batch primary/standby switchover tasks. For details, see Table 6-292 .
count	Integer	Total number.

Table 6-292 Data structure description of field **results**

Parameter	Type	Description
job_id	String	Task ID.
updated_at	String	Update time, in the format yyyy-MM-dd'T'HH:mm:ss'Z'.
source_db	Object	Source database. For details, see Table 6-293 .
target_db	Object	Destination database. For details, see Table 6-293 .
job_direction	String	Task direction. Values: <ul style="list-style-type: none">● up: The current cloud is the standby cloud in the DR and to-the-cloud scenarios.● down: The current cloud is the active cloud in the DR and out-of-cloud scenarios.● non-dbs: self-built databases.
is_target_read_only	Boolean	Whether the destination database is read-only.
error_msg	String	Error message
error_code	String	Error code

Table 6-293 Data structure description of fields **source_db** and **target_db**

Parameter	Type	Description
id	String	Database ID.
obj_id	String	Object ID
instance_name	String	Name of the RDS DB instance.

Parameter	Type	Description
db_type	String	Database type. Values: <ul style="list-style-type: none">• mysql• mongodb
db_user	String	Database user.
db_password	String	Database password.
manage_ip	String	Management IP address.
traffic_ip	String	Traffic IP address.
db_port	Integer	Database port.
region	String	Region where the RDS DB instance is located.
created_at	String	Creation date, in the format yyyy-MM-dd'T'HH:mm:ss'Z'.
updated_at	String	Modification date, in the format yyyy-MM-dd'T'HH:mm:ss'Z'.
ip	String	Private IP address of the replication instance.
public_ip	String	EIP of the replication instance.
az_code	String	AZ code.
security_group_id	String	ID of the security group to which the source database belongs.
subnet_id	String	ID of the subnet where the source database is located.
vpc_id	String	ID of the VPC where the source database is located.
volume_size	Long	Storage space of a replication instance.
full_trans_user_pwd	String	Ciphertext password of the user for full migration.
increment_trans_user_pwd	String	Ciphertext password of the incremental migration user.
ssl_link	Boolean	Whether SSL is enabled.
ssl_cert_key	String	SSL certificate content.
ssl_cert_name	String	SSL certificate name.
ssl_cert_checksum	String	Checksum value of the SSL certificate content.
ssl_cert_password	String	SSL certificate password, in ciphertext.

Parameter	Type	Description
db_version	String	Database version.
mongo_ha_mode	String	Mongo HA mode. Values: <ul style="list-style-type: none">● Sharding: cluster.● ReplicaSet: replica set.● ReplicaSingle: single node.
project_id	String	Project ID of an RDS DB instance.
cluster_mode	String	Cluster mode. Values: <ul style="list-style-type: none">● Single: single-node RDS.● Ha: primary and standby RDS.● GR: RDS Finance Edition.● Sharding: MongoDB cluster or DDM mode. The default value is Sharding.● ReplicaSet: MongoDB replica set.● Replica: RDS read replica.● ReplicaSingle: MongoDB single node.● Cluster: cluster.● Independent: GaussDB independent mode.● Combined: GaussDB combined mode.● Distributed: GaussDB(for MySQL) distributed.
instance_id	String	RDS DB instance ID.
db_name	String	Oracle service name.
topic	String	Name of the mrskafka topic.
safe_mode	Integer	Whether to enable Kerberos authentication for MRSKafka. Values: <ul style="list-style-type: none">● 0: non-security authentication.● 1: security authentication.
kerberos_vo	Object	Information required for Kerberos authentication. For details, see Table 6-294 .
multi_write_db_id	String	ID of the multi-write database.

Table 6-294 Data structure description of field **kerberos_vo**

Parameter	Type	Description
krb5_conf_file	String	krb5 configuration file.
key_tab_file	String	Key file.
domain_name	String	Domain name.
user_principal	String	Kerberos user object.

Example Request

Performing primary/standby switchovers in batches

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-switchover  
  
{  
  "jobs": [ "8d0e8e36-a618-490d-8a46-8c61ac9jb502" ]  
}
```

Example Response

Status code: 202

Accepted

```
{  
  "count": 1,  
  "results": [ {  
    "job_id": "8d0e8e36-a618-490d-8a46-8c61ac9jb502",  
    "updated_at": "2020-12-18T06:38:37Z",  
    "source_db": {  
      "id": "2706a49b-6dd0-4b70-b2a8-36cf0034703d",  
      "region": "cn-xianhz-1",  
      "ip": "192.168.1.144",  
      "topic": null,  
      "obj_id": "0b51710fd4e54d6bb90ab91bf68f86efno01",  
      "instance_name": "rds-zw-source",  
      "db_type": "mysql",  
      "db_user": "root",  
      "db_password": "*****",  
      "manage_ip": null,  
      "traffic_ip": "192.168.1.144",  
      "db_port": 3306,  
      "created_at": "2020-12-16T12:09:54Z",  
      "updated_at": "2020-12-18T06:33:09Z",  
      "public_ip": null,  
      "az_code": "az3xahz",  
      "security_group_id": "652cbe2d-d487-407e-b666-d01948b33879",  
      "subnet_id": "c6f66ccb-be7a-499e-aa8a-1389355e67a8",  
      "vpc_id": "7c73a425-885b-4e54-a0e6-ef9ee271a1db",  
      "volume_size": null,  
      "full_trans_user_pwd": "*****",  
      "increment_trans_user_pwd": "*****",  
      "ssl_link": false,  
      "ssl_cert_key": null,  
      "ssl_cert_name": null,  
      "ssl_cert_check_sum": null,  
      "ssl_cert_password": null,  
      "db_version": "5.7.31",  
      "mongo_ha_mode": null,  
      "project_id": "054ba152d480d55b2f5dc0069e7ddef0",  
    }  
  }  
}
```

```

"cluster_mode" : "Single",
"instance_id" : "3efbb0f1241f429e8e1d8f99ab094c7ain01",
"db_name" : null,
"safe_mode" : null,
"kerberos_vo" : null,
"multi_write_db_id" : null
},
"target_db" : {
"id" : "81ca3c57-029b-4a37-8f2d-2ee5f128ef9d",
"region" : "cn-xianhz-1",
"ip" : "192.168.1.60",
"topic" : null,
"obj_id" : "b46e908dbbb44bb3b17f0a75c908d1d7no01",
"instance_name" : "rds-zw-target",
"db_type" : "mysql",
"db_user" : "root",
"db_password" : "*****",
"manage_ip" : null,
"traffic_ip" : "192.168.1.60",
"db_port" : 3306,
"created_at" : "2020-12-16T12:09:55Z",
"updated_at" : "2020-12-18T06:33:08Z",
"public_ip" : null,
"az_code" : "az3xahz",
"security_group_id" : "652cbe2d-d487-407e-b666-d01948b33879",
"subnet_id" : "c6f66ccb-be7a-499e-aa8a-1389355e67a8",
"vpc_id" : "7c73a425-885b-4e54-a0e6-ef9ee271a1db",
"volume_size" : 40,
"full_trans_user_pwd" : "*****",
"increment_trans_user_pwd" : "*****",
"ssl_link" : false,
"ssl_cert_key" : null,
"ssl_cert_name" : null,
"ssl_cert_check_sum" : null,
"ssl_cert_password" : null,
"db_version" : "5.7.31",
"mongo_ha_mode" : null,
"project_id" : "054ba152d480d55b2f5dc0069e7ddef0",
"cluster_mode" : "Single",
"instance_id" : "a3ab61173b1b4533b8c3dfc2bb3ec828in01",
"db_name" : null,
"safe_mode" : null,
"kerberos_vo" : null,
"multi_write_db_id" : null
},
"job_direction" : "down",
"is_target_readonly" : false
}]
}

```

Status Code

Status Code	Description
202	Accepted
400	Bad Request

Error Code

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

6.4.2 Querying DR Monitoring Data

Function

This API is used to query DR monitoring data based on the task ID.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

Constraints

You can call a maximum of 10 APIs in batches.

URI

POST /v3/{project_id}/jobs/disaster-recovery-monitoring-data

Table 6-295 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-296 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none">• en-us• zh-cn

Table 6-297 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of strings	Task query request body.

Response Parameters

Status code: 200

Table 6-298 Response body parameters

Parameter	Type	Description
results	Array of objects	DR monitoring data response body set. For details, see Table 6-299 .
count	Integer	Total number of queries.

Table 6-299 Data structure description of field **results**

Parameter	Type	Description
id	String	Task ID.
data_guard_minitor	object	DR task monitoring data. For details, see Table 6-300 .

Table 6-300 Data structure description of field **data_guard_minitor**

Parameter	Type	Description
bandwidth	String	Bandwidth.
cpuUsed_percent	String	CPU usage.
dst_delay	Long	Delay of the destination database.
dst_io	String	Destination database I/O.
dst_normal	Boolean	Connection status of the destination database.
dst_offset	String	Offset of the destination database.
dst_rps	String	destination database RPS.
mem_used_in_MB	string	Memory usage

Parameter	Type	Description
node_mem_inMB	Long	Total memory size of a node.
node_offset	String	OffSet of the replication instance.
node_volume_inGB	Long	Total disk size of a node.
sr_delay	Long	Delay of the source database.
sr_offset	String	OffSet of the source database.
src_io	String	Source database I/O.
src_normal	Boolean	Connection status of the source database.
src_rps	String	Source database RPS.
trans_inMB	String	Amount of migrated data
trans_lines	String	Number of rows to be migrated.
volume_used_inGB	String	Disk usage.
migration_bytes_per_second	Long	Number of bytes migrated per second.

Example Request

Example of querying DR monitoring data:

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/disaster-recovery-monitoring-data
{
  "jobs": [ "9a470239-2308-4bb5-a6bc-1040402fjb21" ]
}
```

Example Response

Status code: 200

OK

```
{
  "results": [ {
    "id": "b683ea69-a29c-456f-952f-2b682180jb52",
    "data_guard_minitor": {
      "src_normal": true,
      "dst_normal": true,
      "sr_offset": "mysql-bin.000445:191",
      "node_offset": "mysql-bin.000445:191",
      "dst_offset": "N/A",
      "sr_delay": 0,
      "dst_delay": 81046806,
      "src_rps": "0",
      "src_io": "0.0",
      "bandwidth": "37",
```

```
"dst_rps" : "0",
"dst_io" : "0.0",
"trans_inMB" : "0",
"trans_lines" : "0",
"volume_used_inGB" : "5",
"mem_used_inMB" : "2166",
"cpuUsed_percent" : "1.4",
"node_volume_inGB" : 100,
"node_mem_inMB" : 8192,
"migration_bytes_per_second": 789456
}
}],
"count" : 1
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

6.4.3 Querying the DR Initialization Progress in Batches

Function

This API is used to query the DR initialization progress in batches based on the task ID. Virtual IDs cannot be queried.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

URI

POST /v3/{project_id}/jobs/batch-struct-process

Table 6-301 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 6-302 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none">• en-us• zh-cn

Table 6-303 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of strings	Request body for querying tasks in batches.

Response Parameters

Status code: 200

Table 6-304 Response body parameters

Parameter	Type	Description
results	Array of objects	DR initialization progresses queried in batches. For details, see Table 6-305 .
count	Integer	Total number.

Table 6-305 Data structure description of field **results**

Parameter	Type	Description
job_id	String	Task ID.
error_code	String	Error code.

Parameter	Type	Description
error_message	String	Error message.
struct_process	Object	Information about the DR initialization progress. For details, see Table 6-306 .

Table 6-306 Data structure description of field **struct_process**

Parameter	Type	Description
create_time	String	Data generation time.
result	Array of objects	Comparison result. For details, see Table 6-307 .

Table 6-307 Data structure description of field **result**

Parameter	Type	Description
type	String	Object type.
status	Integer	Status
src_count	Integer	Number of source objects.
dst_count	Integer	Number of destination objects.
start_time	Long	Start time.
end_time	Long	End time.

Example Request

Example of querying details about DR initialization objects in batches:

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-struct-process
{
  "jobs" : [ "0ea5c5a0-e1b5-4421-80a9-7c9ff27jb502" ]
}
```

Example Response

Status code: 200

OK

```
{
  "count" : 1,
```

```
"results": [ {  
  "job_id": "8ee21a0b-fff5-46b4-a6dd-6c54d5djb201",  
  "struct_process": {  
    "result": [ {  
      "type": "table",  
      "status": 2,  
      "src_count": 0,  
      "dst_count": 0,  
      "start_time": 1608097599000,  
      "end_time": 1608097600000  
    }, {  
      "type": "view",  
      "status": 2,  
      "src_count": 0,  
      "dst_count": 0,  
      "start_time": 1608097599000,  
      "end_time": 1608097600000  
    }, {  
      "type": "table_structure",  
      "status": 2,  
      "src_count": 0,  
      "dst_count": 0,  
      "start_time": 1608097599000,  
      "end_time": 1608097600000  
    }, {  
      "type": "database",  
      "status": 2,  
      "src_count": 1,  
      "dst_count": 1,  
      "start_time": 1608097599000,  
      "end_time": 1608097600000  
    }, {  
      "type": "function",  
      "status": 2,  
      "src_count": 0,  
      "dst_count": 0,  
      "start_time": 1608097599000,  
      "end_time": 1608097600000  
    }, {  
      "type": "procedure",  
      "status": 2,  
      "src_count": 0,  
      "dst_count": 0,  
      "start_time": 1608097599000,  
      "end_time": 1608097600000  
    }, {  
      "type": "table_indexes",  
      "status": 2,  
      "src_count": 0,  
      "dst_count": 0,  
      "start_time": 1608097599000,  
      "end_time": 1608097600000  
    }  
  ],  
  "create_time": "1608429670521"  
}  
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

6.4.4 Querying DR Initialization Object Details in Batches

Function

This API is used to query details about DR initialization objects in batches by task ID.

Debugging

You can debug the API in [API Explorer](#) to support automatic authentication. API Explorer can automatically generate and debug example SDK code.

URI

POST /v3/{project_id}/jobs/{type}/batch-struct-detail

Table 6-308 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region For details about how to obtain the project ID, see Obtaining a Project ID .
type	Yes	String	Supported migration object types. Values: <ul style="list-style-type: none">• database• schema• table• view• procedure• trigger• index• table_indexs• table_structure

Request Parameters

Table 6-309 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	The content type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM.
X-Language	No	String	Request language type Default value: en-us Values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 6-310 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of strings	Querying task details in batches
page_req	No	Object	Pagination information. For details, see Table 6-311 .

Table 6-311 Data structure description of field **page_req**

Parameter	Mandatory	Type	Description
cur_page	No	Integer	Current page number, which cannot exceed the maximum number of pages. (Number of pages = Number of items/ Number of tasks on each page) The default value is 1 .
per_page	No	Integer	Number of items on each page. If this parameter is set to 0 , all items are obtained. <ul style="list-style-type: none"> • Minimum value: 0 • Maximum value: 100 • Default value: 5

Response Parameters

Status code: 200

Table 6-312 Response body parameters

Parameter	Type	Description
count	Integer	Total number.
results	Array of objects	DR initialization object details that are queried in batches. For details, see Table 6-313 .

Table 6-313 Data structure description of field **results**

Parameter	Type	Description
job_id	String	Task ID.
error_code	String	Error code.
error_message	String	Error message.
struct_detail	Object	Details about the DR initialization objects. For details, see Table 6-314 .

Table 6-314 Data structure description of field **struct_detail**

Parameter	Type	Description
total_record	Long	Total number of tasks
create_time	String	Data generation time
list	Array of objects	Comparison result. For details, see Table 6-315 .

Table 6-315 Data structure description of field **list**

Parameter	Type	Description
progress	Integer	Progress.
src_DB	String	Source database name.
src_TB	String	Source object name.
dst_DB	String	Destination database name.

Parameter	Type	Description
dst_TB	String	Destination object name.

Example Request

Example of querying details about DR initialization objects in batches:

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/database/batch-struct-detail
```

```
{
  "jobs": [ "0ea5c5a0-e1b5-4421-80a9-7c9ff27jb502" ],
  "page_req": {
    "cur_page": 1,
    "per_page": 10
  }
}
```

Example Response

Status code: 200

OK

```
{
  "count": 1,
  "results": [ {
    "job_id": "8d0e8e36-a618-490d-8a46-8c61ac9jb502",
    "struct_detail": {
      "list": [ {
        "progress": 100,
        "src_DB": "test1",
        "src_TB": "test1",
        "dst_DB": "test1",
        "dst_TB": "test1"
      } ],
      "total_record": 1,
      "create_time": "1608429484785"
    }
  } ]
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

7 APIs V5.0 (in OBT)

7.1 Resource Management

7.1.1 Querying Information about Available Links

Function

This API is used to query information about available links.

Constraints

- This API is available only for synchronization from MySQL to MySQL, migration from Redis to GeminiDB Redis, migration from cluster Redis to GeminiDB Redis, and synchronization from Oracle to GaussDB Distributed.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/links

Table 7-1 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .

Table 7-2 Query parameters

Parameter	Mandatory	Type	Description
job_type	Yes	String	Task scenario. Values: <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery. Enumerated values: <ul style="list-style-type: none"> • migration • sync • cloudDataGuard
offset	No	Integer	Offset. The records after this offset will be queried.
limit	No	Integer	Maximum number of records that can be returned.

Request Parameters

Table 7-3 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-4 Response body parameters

Parameter	Type	Description
job_links	Array of objects	Information about available links. For details, see Table 7-5 .
total_count	Integer	Total number of available links.

Table 7-5 Data structure description of field **job_links**

Parameter	Type	Description
job_type	String	Task scenario. Values: <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery. Enumerated values: <ul style="list-style-type: none"> • migration • sync • cloudDataGuard

Parameter	Type	Description
engine_type	String	<p>Engine type. Values:</p> <ul style="list-style-type: none"> ● oracle-to-gaussdbv5: Synchronization from Oracle to GaussDB distributed. ● redis-to-gaussredis: Migration from Redis to GeminiDB Redis. ● rediscluster-to-gaussredis: Migration from cluster Redis to GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● oracle-to-gaussdbv5 ● redis-to-gaussredis ● rediscluster-to-gaussredis
source_endpoint_type	String	<p>Source DB instance type. Values:</p> <ul style="list-style-type: none"> ● offline: indicates an on-premises database. ● ecs: indicates a database built on Huawei Cloud ECSs. ● cloud: indicates a Huawei cloud database. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● offline ● ecs ● cloud
target_endpoint_type	String	<p>Destination DB instance type. Values:</p> <ul style="list-style-type: none"> ● offline: indicates an on-premises database. ● ecs: indicates a database built on Huawei Cloud ECSs. ● cloud: indicates a Huawei cloud database. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● offline ● ecs ● cloud

Parameter	Type	Description
job_direction	String	<p>Migration direction. Values:</p> <ul style="list-style-type: none"> ● up: to-the-cloud scenarios and DR scenarios where the current cloud is the standby. ● down: out-of-cloud scenarios and DR scenarios where the current cloud is the active. ● non-dbs: self-built databases. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● up ● down ● non-dbs
net_type	String	<p>Network type. Values:</p> <ul style="list-style-type: none"> ● eip: public network. ● vpc: VPC network. The VPC network cannot be selected in DR scenarios. ● vpn: VPN or Direct Connect. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● eip ● vpc ● vpn
task_types	Array of strings	<p>Migration type. Values:</p> <ul style="list-style-type: none"> ● FULL_TRANS: full migration. ● FULL_INCR_TRANS: full+incremental migration. ● INCR_TRANS: incremental migration. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● FULL_TRANS ● FULL_INCR_TRANS ● INCR_TRANS

Parameter	Type	Description
cluster_modes	Array of strings	<p>Engine instance mode. Values:</p> <ul style="list-style-type: none"> ● Single: single node. ● Ha: primary/standby. ● Cluster: cluster. ● Sharding: sharding. ● Independent: independent GaussDB deployment. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● Single ● Ha ● Cluster ● Sharding ● Independent
description	String	Description.

Status code: 400

Table 7-6 Response body parameters

Parameter	Type	Description
error_code	String	<p>Error code.</p> <p>Minimum length: 12</p> <p>Maximum length: 12</p>
error_msg	String	<p>Error message.</p> <p>Minimum length: 1</p> <p>Maximum length: 512</p>

Example Request

- Querying information about available links for real-time migration
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/links?job_type=migration
- Querying information about available links for real-time synchronization
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/links?job_type=sync
- Querying information about available links for real-time disaster recovery
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/links?job_type=cloudDataGuard

Example Response

Status code: 200

OK

```
{
  "job_links" : [ {
    "job_type" : "sync",
    "engine_type" : "oracle-to-gaussdbv5",
    "net_type" : "eip",
    "task_types" : [ "FULL_INCR_TRANS", "FULL_TRANS", "INCR_TRANS" ],
    "job_direction" : "up",
    "cluster_modes" : [ "Independent", "Combined" ],
    "source_endpoint_type" : "offline",
    "target_endpoint_type" : "cloud"
  }, {
    "job_type" : "sync",
    "engine_type" : "oracle-to-gaussdbv5",
    "net_type" : "vpn",
    "task_types" : [ "FULL_INCR_TRANS", "FULL_TRANS", "INCR_TRANS" ],
    "job_direction" : "up",
    "cluster_modes" : [ "Independent", "Combined" ],
    "source_endpoint_type" : "offline",
    "target_endpoint_type" : "cloud"
  } ],
  "total_count" : 2
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10000009",
  "error_msg" : "Parameter error."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.2 Task Management

7.2.1 Creating a Task

Function

This API is used to create a single task. You can create a real-time migration, synchronization, or DR task based on different request parameters.

Constraints

- This API is available only for synchronization from MySQL to MySQL, migration from Redis to GeminiDB Redis, migration from cluster Redis to GeminiDB Redis, and synchronization from Oracle to GaussDB Distributed.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

POST /v5/{project_id}/jobs

Table 7-7 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 7-8 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-9 Request body parameters

Parameter	Mandatory	Type	Description
job	Yes	Object	Request body for creating a task. For details, see Table 7-10 .

Table 7-10 Data structure description of field **job**

Parameter	Mandatory	Type	Description
base_info	Yes	Object	Basic information body for creating a task. For details, see Table 7-11 .
source_endpoint	Yes	Array of objects	Database information body for creating a task. For details, see Table 7-13 .
target_endpoint	Yes	Array of objects	Database information body for creating a task. For details, see Table 7-13 .
period_order	No	Object	Yearly/Monthly information body. For details, see Table 7-20 .
node_info	Yes	Object	Information body of the DRS instance. For details, see Table 7-21 .
public_ip_list	No	Array of objects	Information about a specified EIP. For details, see Table 7-25 .

Table 7-11 Data structure description of field **base_info**

Parameter	Mandatory	Type	Description
name	No	String	<p>Task name. The task name can be 4 to 50 characters in length. It is case-insensitive and can contain only letters, digits, hyphens (-), and underscores (_).</p> <ul style="list-style-type: none"> • Minimum length: 4 • Maximum length: 50
job_type	No	String	<p>Task scenario. Values:</p> <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery. <p>Enumerated values:</p> <ul style="list-style-type: none"> • migration • sync • cloudDataGuard
multi_write	No	Boolean	<p>Whether the DR type is dual-active. Note:</p> <ul style="list-style-type: none"> • This parameter is mandatory when job_type is set to cloudDataGuard. If the DR type is dual-active, the value of multi_write is true. Otherwise, the value is false. • If job_type is set to other values, multi_write is optional.

Parameter	Mandatory	Type	Description
engine_type	No	String	<p>Engine type. Values:</p> <ul style="list-style-type: none"> ● oracle-to-gaussdbv5: Synchronization from Oracle to GaussDB distributed. ● redis-to-gaussredis: Migration from Redis to GeminiDB Redis. ● rediscluster-to-gaussredis: Migration from cluster Redis to GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● oracle-to-gaussdbv5 ● redis-to-gaussredis ● rediscluster-to-gaussredis
job_direction	No	String	<p>Migration direction. Values:</p> <ul style="list-style-type: none"> ● up: to-the-cloud scenarios and DR scenarios where the current cloud is the standby. ● down: out-of-cloud scenarios and DR scenarios where the current cloud is the active. ● non-dbs: self-built databases. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● up ● down ● non-dbs
task_type	No	String	<p>Migration type. Values:</p> <ul style="list-style-type: none"> ● FULL_TRANS: full migration. ● FULL_INCR_TRANS: full +incremental migration. ● INCR_TRANS: incremental migration. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● FULL_TRANS ● FULL_INCR_TRANS ● INCR_TRANS

Parameter	Mandatory	Type	Description
net_type	No	String	Network type. Values: <ul style="list-style-type: none"> • eip: public network. • vpc: VPC network. The VPC network cannot be selected in DR scenarios. • vpn: VPN or Direct Connect. Enumerated values: <ul style="list-style-type: none"> • eip • vpc • vpn
charging_mode	No	String	Billing mode. The pay-per-use billing is used by default. Values: <ul style="list-style-type: none"> • period: indicates the yearly/monthly billing. • on_demand: indicates the pay-per-use billing. Enumerated values: <ul style="list-style-type: none"> • period • on_demand
enterprise_project_id	No	String	Enterprise project ID. The default value is 0 , indicating the default enterprise project. Default value: 0
description	No	String	Task description. The task description can contain a maximum of 256 characters and cannot contain the following special characters: ! <>'&"\ Minimum length: 0 Maximum length: 256
start_time	No	String	Scheduled start time of a task.
expired_days	No	String	Number of days after which an abnormal task automatically stops. The unit is day. The value ranges from 14 to 100. If this parameter is not specified, the default value is 14 . Default value: 14

Parameter	Mandatory	Type	Description
tags	No	Array of objects	Tag information. Up to 20 tags can be added. For details, see Table 7-12 .

Table 7-12 Data structure description of field **tags**

Parameter	Mandatory	Type	Description
key	No	String	Tag key. The value can contain a maximum of 36 characters, including letters, digits, underscores (_), and hyphens (-). Minimum length: 1 Maximum length: 36
value	No	String	Tag value. The value can contain a maximum of 43 characters, including letters, digits, underscores (_), and hyphens (-). Minimum length: 1 Maximum length: 43

Table 7-13 Data structure description of fields **source_endpoint** and **target_endpoint**

Parameter	Mandatory	Type	Description
db_type	Yes	String	Database type. Values: <ul style="list-style-type: none"> • oracle: Oracle. • gaussdbv5: GaussDB distributed. • redis: Redis. • rediscluster: Cluster Redis. • gaussredis: GeminiDB Redis. Enumerated values: <ul style="list-style-type: none"> • oracle • gaussdbv5 • redis • rediscluster • gaussredis
endpoint_type	Yes	String	DB instance type. Values: <ul style="list-style-type: none"> • offline: indicates an on-premises database. • ecs: indicates a database built on Huawei Cloud ECSs. • cloud: indicates a Huawei cloud database. Enumerated values: <ul style="list-style-type: none"> • offline • ecs • cloud
endpoint_role	Yes	String	DB instance role. Values: <ul style="list-style-type: none"> • so: indicates the source database. • ta: indicates the destination database. Enumerated values: <ul style="list-style-type: none"> • so • ta
endpoint	Yes	Object	Basic information body of the database. For details, see Table 7-14 .

Parameter	Mandatory	Type	Description
cloud	No	Object	Region and project where a DB instance is located. For details, see Table 7-15 .
vpc	No	Object	Information about the VPC, subnet, and security group where a DB instance resides. This parameter is mandatory when the DB instance type is ECS . For details, see Table 7-16 .
config	No	Object	Basic information body of database settings. For details, see Table 7-17 .
ssl	No	Object	Information body of the database SSL certificate. For details, see Table 7-18 .
customized_dns	No	Object	Custom DNS server. For details, see Table 7-19 .

Table 7-14 Data structure description of fields **endpoint** and **source_sharding**

Parameter	Mandatory	Type	Description
id	No	String	Database information ID.

Parameter	Mandatory	Type	Description
endpoint_name	Yes	String	<p>Database scenario type.</p> <p>Values:</p> <ul style="list-style-type: none"> • oracle: indicates the on-premises Oracle database. • ecs_oracle: indicates the Oracle database built on Huawei Cloud ECSs. • cloud_gaussdbv5: indicates the Huawei Cloud distributed GaussDB database. • mysql: indicates the MySQL database built on other clouds or on-premises MySQL database. • ecs_mysql: indicates the MySQL database built on Huawei Cloud ECSs. • cloud_mysql: indicates the Huawei Cloud RDS for MySQL database. • redis: On-premises Redis database. • ecs_redis: Redis database built on Huawei Cloud ECSs. • rediscluster: On-premises cluster Redis database. • ecs_rediscluster: Cluster Redis database built on Huawei Cloud ECSs. • cloud_gaussdb_redis: Huawei Cloud GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> • oracle • ecs_oracle • cloud_gaussdbv5 • mysql • ecs_mysql • cloud_mysql • redis • ecs_redis • rediscluster

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none">• <code>ecs_rediscluster</code>• <code>cloud_gaussdb_redis</code>

Parameter	Mandatory	Type	Description
ip	No	String	<p>Database IP address. Note:</p> <ul style="list-style-type: none"> • If an on-premises MongoDB database is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. A maximum of three IP addresses or domain names can be entered. • If a DDS instance is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. • If the database is a cluster Redis database, enter the IP addresses and port numbers of all shards in the source cluster Redis database. Use colons (:) to separate a database IP address and port number. Use commas (,) to separate multiple values. You are advised to enter the IP address of the slave node of a cluster shard. Up to 32 IP addresses or domain names can be entered. Use commas (,) to separate multiple IP addresses or domain names. <p>Example:</p> <ul style="list-style-type: none"> • MongoDB: 192.168.0.10:8080,192.168.0.11:8080,192.168.0.12:8080 • DDS: 192.168.205.130:8635,192.168.250.64:8635 • Cluster Redis: 192.168.0.1:8080,192.168.0.2:8080

Parameter	Mandatory	Type	Description
db_port	No	String	Database port. The value is an integer ranging from 1 to 65535.
db_user	Yes	String	Database username.
db_password	Yes	String	Database password.
instance_id	No	String	ID of a Huawei Cloud DB instance.
instance_name	No	String	Name of a Huawei Cloud DB instance.
db_name	No	String	Database name. Example: <ul style="list-style-type: none"> oracle: serviceName.orcl.
source_sharding	No	Array of objects	Information about the physical source database. For details, see Table 7-14 .

Table 7-15 Data structure description of field **cloud**

Parameter	Mandatory	Type	Description
region	Yes	String	Region ID. This parameter is mandatory when DB Instance Type is set to ecs (database built on Huawei Cloud ECSs) or cloud (Huawei cloud database). For details, see Regions and Endpoints . Note: If there are subprojects in a region, the region ID is a combination of the regional project ID and subproject ID, which are combined using an underscore (_).
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
az_code	No	String	Name of the AZ where the database is located.

Table 7-16 Data structure description of field **vpc**

Parameter	Mandatory	Type	Description
vpc_id	Yes	String	ID of the VPC where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. Method 2: Call the API for querying VPCs. For details, see Querying VPCs .
subnet_id	Yes	String	ID of the subnet where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and click the target subnet on the Subnets page to view the network ID on the displayed page. Method 2: Call the API for querying subnets. For details, see Querying Subnets .
security_group_id	No	String	ID of the security group where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console. Choose Access Control > Security Groups in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page. Method 2: Call the API for querying security groups. For details, see Querying Security Groups .

Table 7-17 Data structure description of field **config**

Parameter	Mandatory	Type	Description
is_target_read_only	No	Boolean	Whether the destination DB instance is set to read-only. This parameter is available only when job_direction is set to up during MySQL migration and DR. In the DR scenario, this parameter is mandatory and set to true if the current cloud is the standby in single-active DR. If this parameter is not specified, the default value is true . Default value: true
node_num	No	Integer	Number of subtasks connected to the source cluster Redis instance for data migration from cluster Redis to GeminiDB Redis. The value ranges from 1 to 16 and cannot be greater than the number of shards in the source cluster Redis instance. Set this parameter based on the scale of the source cluster Redis instance. You are advised to set one subtask to connect to four shards in the source cluster Redis instance. Minimum value: 1 Maximum value: 16 Default value: 0

Table 7-18 Data structure description of field **ssl**

Parameter	Mandatory	Type	Description
ssl_link	No	Boolean	Whether SSL is enabled. If SSL is enabled, the value of this parameter is true .
ssl_cert_name	No	String	SSL certificate name.
ssl_cert_key	No	String	SSL certificate content, which is encrypted using Base64.

Parameter	Mandatory	Type	Description
ssl_cert_check_sum	No	String	The checksum value of the SSL certificate, which is used for backend verification. This parameter is mandatory for secure connection to the source database.
ssl_cert_password	No	String	SSL certificate password. This parameter is mandatory if the certificate file name extension is .p12.

Table 7-19 Data structure description of field **customized_dns**

Parameter	Mandatory	Type	Description
is_set_dns	Yes	Boolean	Specifies whether to set your own DNS server.
set_dns_action	Yes	String	Behavior of setting your own DNS server. <ul style="list-style-type: none"> • add: Add a customized DNS server IP address. • keep: Retain the DNS server IP address. • update: Update the customized DNS server IP address. (The update takes effect when the DNS server IP address changes.) • recover: Restore the default DNS server IP address. (Restoration may cause domain name resolution failures. Exercise caution when performing this operation.) Enumerated values: <ul style="list-style-type: none"> • add • keep • update • recover
dns_ip	Yes	String	DNS server IP address. Minimum length: 0 Maximum length: 15

Table 7-20 Data structure description of field **period_order**

Parameter	Mandatory	Type	Description
period_type	Yes	Integer	Subscription period type. Values: <ul style="list-style-type: none"> • 2: indicates that the service is subscribed by month. • 3: indicates that the service is subscribed by year. Default value: 3 Enumerated values: <ul style="list-style-type: none"> • 2 • 3
period_num	Yes	Integer	Number of subscription periods. This parameter depends on the value of period_type . For example: <ul style="list-style-type: none"> • When period_type is set to 2, the value 1 indicates one month. • When period_type is set to 3, the value 1 indicates one year.
is_auto_renew	No	Integer	Whether auto renewal is enabled. Values: <ul style="list-style-type: none"> • 0: indicates that auto renewal is disabled. This is the default value. You need to pay manually. • 1: indicates that auto renewal is enabled. Default value: 0 Enumerated values: <ul style="list-style-type: none"> • 0 • 1

Table 7-21 Data structure description of field **node_info**

Parameter	Mandatory	Type	Description
spec	Yes	Object	Information body of DRS instance specifications. For details, see Table 7-22 .

Parameter	Mandatory	Type	Description
vpc	No	Object	Information body of DRS instance VPC. This parameter is mandatory for self-built databases. For details, see Table 7-23 .
base_info	No	Object	Information body of DRS instance VPC. This parameter is mandatory for self-built databases. For details, see Table 7-24 .

Table 7-22 Data structure description of field **spec**

Parameter	Mandatory	Type	Description
node_type	Yes	String	Specification code. Values: <ul style="list-style-type: none"> • micro: minimum specifications. • small: small specifications. • medium: medium specifications. • high: large specifications. Enumerated values: <ul style="list-style-type: none"> • micro • small • medium • high

Table 7-23 Data structure description of field **vpc**

Parameter	Mandatory	Type	Description
vpc_id	Yes	String	ID of the VPC where the DRS instance is located.
subnet_id	Yes	String	ID of the subnet where the DRS instance is located.

Parameter	Mandatory	Type	Description
custom_node_ip	No	String	<p>IP address of the DRS instance to be created. Use commas (,) to separate multiple values. Only IPv4 addresses are supported. To obtain the IP address, perform the following steps:</p> <ul style="list-style-type: none"> Method 1: Log in to the VPC console and click the target subnet on the Subnets page. View the subnet CIDR block and select an IP address that is not in use. Method 2: Call the API for querying private IP addresses. For details, see "Querying Private IP Addresses". Select a private IP address whose device_owner is left blank. Example: 192.168.0.10,192.168.0.11
security_group_id	No	String	ID of the security group where the DRS instance is located.

Table 7-24 Data structure description of field **base_info**

Parameter	Mandatory	Type	Description
instance_type	Yes	String	<p>DB instance type. The value can be:</p> <ul style="list-style-type: none"> single: single instance. ha: primary/standby instance. <p>Enumerated values:</p> <ul style="list-style-type: none"> single ha

Parameter	Mandatory	Type	Description
arch	Yes	String	CPU architecture. The value can be: <ul style="list-style-type: none"> • x86 • arm Enumerated values: <ul style="list-style-type: none"> • x86 • arm
availability_zone	Yes	String	AZ ID. If the task instance is not a single instance, you need to specify an AZ for each node of the instance and separate the AZs with commas (,).
status	No	String	Status.
role	No	String	Primary/Standby role of a task.

Table 7-25 Data structure description of field **public_ip_list**

Parameter	Mandatory	Type	Description
id	Yes	String	ID of a specified EIP.
public_ip	Yes	String	EIP.
type	Yes	String	Type of a task with an EIP bound. <ul style="list-style-type: none"> • In a primary/standby task, master indicates the primary task, and slave indicates the standby task. • In other cases, the value is fixed to master. Enumerated values: <ul style="list-style-type: none"> • master • slave

Response Parameters

Status code: 200

Table 7-26 Response body parameters

Parameter	Type	Description
job	Object	Response body for creating a task. For details, see Table 7-27 .

Table 7-27 Data structure description of field **job**

Parameter	Type	Description
id	String	Task ID.
name	String	Task name.
status	String	Task status.
create_time	String	Task creation time.
is_clone_job	String	Indicates whether a task is a clone task.

Status code: 400

Table 7-28 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

- Creating a pay-per-use synchronization task from Oracle to GaussDB distributed, in which **task_type** is set to **FULL_INCR_TRANS** and **net_type** is set to **eip**

`https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs`

```
{
  "job": {
    "base_info": {
      "name": "DRS-1234",
      "job_type": "sync",
      "engine_type": "oracle-to-gaussdbv5",
      "job_direction": "up",
      "task_type": "FULL_INCR_TRANS",
      "net_type": "eip",
      "charging_mode": "on_demand",
```

```
"enterprise_project_id" : "0",
"description" : "",
"expired_days" : "14",
"tags" : [ {
  "key" : "test",
  "value" : "test"
} ]
},
"source_endpoint" : [ {
  "db_type" : "oracle",
  "endpoint_type" : "offline",
  "endpoint_role" : "so",
  "endpoint" : {
    "endpoint_name" : "oracle",
    "ip" : "10.154.217.239",
    "db_port" : "1521",
    "db_user" : "ORACLE_USER",
    "db_name" : "serviceName.orcl",
    "db_password" : "*****"
  },
  "ssl" : {
    "ssl_link" : false
  }
} ],
"target_endpoint" : [ {
  "db_type" : "gaussdbv5",
  "endpoint_type" : "cloud",
  "endpoint_role" : "ta",
  "endpoint" : {
    "endpoint_name" : "cloud_gaussdbv5",
    "instance_id" : "c2c7579bc09c490b9d8009db715aeb0ain14",
    "db_user" : "root",
    "db_password" : "*****"
  },
  "cloud" : {
    "region" : "cn-north-4",
    "project_id" : "9dc8c0f3f74c4dbb23c29cf0318ee561",
    "az_code" : "cn-north-4a,cn-north-4c,cn-north-4g"
  },
  "vpc" : {
    "vpc_id" : "2cb5d364-ae63-4fbb-85b7-7d59f4a88f8f",
    "subnet_id" : "2cb54324-ae63-4fbb-85b7-7d59f4a88f8f",
    "security_group_id" : "039a3s89-665a-43e2-9b4f-bda7d9ee148d"
  }
} ],
"node_info" : {
  "spec" : {
    "node_type" : "medium"
  },
  "vpc" : {
    "vpc_id" : "2cb5d364-ae63-4fbb-85b7-7d59f4a88f8f",
    "subnet_id" : "2cb54324-ae63-4fbb-85b7-7d59f4a88f8f"
  }
}
}
```

- Creating a pay-per-use real-time synchronization task from Oracle to GaussDB Distributed and specifying an EIP

<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs>

```
{
  "job": {
    "base_info": {
      "name": "DRS-1234",
      "job_type": "sync",
      "engine_type": "oracle-to-gaussdbv5",
      "job_direction": "up",
      "task_type": "FULL_INCR_TRANS",
```

```
"net_type": "eip",
"charging_mode": "on_demand",
"enterprise_project_id": "0",
"description": "",
"expired_days": "14",
"tags": [
  {
    "key": "test",
    "value": "test"
  }
]
},
"source_endpoint": [
  {
    "db_type": "oracle",
    "endpoint_type": "offline",
    "endpoint_role": "so",
    "endpoint": {
      "endpoint_name": "oracle",
      "ip": "*****",
      "db_port": "1521",
      "db_user": "ORACLE_USER",
      "db_name": "serviceName.orcl",
      "db_password": "*****"
    },
    "ssl": {
      "ssl_link": false
    }
  }
],
"target_endpoint": [
  {
    "db_type": "gaussdbv5",
    "endpoint_type": "cloud",
    "endpoint_role": "ta",
    "endpoint": {
      "endpoint_name": "cloud_gaussdbv5",
      "instance_id": "c2c7579bc09c490b9d8009db715aeb0ain14",
      "db_user": "root",
      "db_password": "*****"
    },
    "cloud": {
      "region": "cn-north-4",
      "project_id": "9dc8c0f3f74c4dbb23c29cf0318ee561",
      "az_code": "cn-north-4a,cn-north-4c,cn-north-4g"
    },
    "vpc": {
      "vpc_id": "2cb5d364-ae63-4fbb-85b7-7d59f4a88f8f",
      "subnet_id": "2cb54324-ae63-4fbb-85b7-7d59f4a88f8f",
      "security_group_id": "039a3s89-665a-43e2-9b4f-bda7d9ee148d"
    }
  }
],
"node_info": {
  "spec": {
    "node_type": "medium"
  },
  "vpc": {
    "vpc_id": "2cb5d364-ae63-4fbb-85b7-7d59f4a88f8f",
    "subnet_id": "2cb54324-ae63-4fbb-85b7-7d59f4a88f8f"
  }
},
"public_ip_list": [
  {
    "id": "018d9e56-26d5-455a-97dc-e6f5f44a2cbd",
    "public_ip": "*****",
    "type": "master"
  }
]
```

```
}  
}
```

Example Response

Status code: 200

OK

```
{  
  "job": {  
    "id": "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r",  
    "name": "DRS-1234",  
    "status": "CREATING",  
    "create_time": "2022-11-07T16:15:18Z"  
  }  
}
```

Status code: 400

Bad Request

```
{  
  "error_code": "DRS.10000001",  
  "error_msg": "Failed."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.2.2 Querying Tasks

Function

This API is used to query tenant tasks by enterprise project, engine type, network type, task status, task name, or task ID.

Constraints

- This API is available only for synchronization from MySQL to MySQL, migration from Redis to GeminiDB Redis, migration from cluster Redis to GeminiDB Redis, and synchronization from Oracle to GaussDB Distributed.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs

Table 7-29 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .

Table 7-30 Query parameters

Parameter	Mandatory	Type	Description
job_type	Yes	String	Task scenario. Values: <ul style="list-style-type: none">• migration: real-time migration.• sync: real-time synchronization.• cloudDataGuard: real-time disaster recovery. Enumerated values: <ul style="list-style-type: none">• migration• sync• cloudDataGuard
name	No	String	Task ID or name. You can enter a maximum of 10 task IDs separated by commas (,).

Parameter	Mandatory	Type	Description
status	No	String	<p>Task status. Values:</p> <ul style="list-style-type: none"> ● CREATING: The task is being created. ● CREATE_FAILED: The task fails to be created. ● CONFIGURATION: The task is being configured. ● STARTJOBING: The task is being started. ● WAITING_FOR_START: The task is waiting to be started. ● START_JOB_FAILED: The task fails to be started. ● FULL_TRANSFER_STARTED: Full migration is in progress, and the initialization is in progress in the DR scenario. ● FULL_TRANSFER_FAILED: Full migration fails, and the initialization fails in the DR scenario. ● FULL_TRANSFER_COMPLETE: Full migration is complete, and the initialization is complete in the DR scenario. ● INCRE_TRANSFER_STARTED: Incremental migration is in progress, and the disaster recovery is in progress in the DR scenario. ● INCRE_TRANSFER_FAILED: Incremental migration fails, and a DR exception occurs. ● RELEASE_RESOURCE_STARTED: The task is being stopped. ● RELEASE_RESOURCE_FAILED: The task fails to be stopped. ● RELEASE_RESOURCE_COMPLETE: The task is stopped. ● CHANGE_JOB_STARTED: The task is being changed.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> ● CHANGE_JOB_FAILED: The task fails to be changed. ● CHILD_TRANSFER_STARTING: The subtask is being started. ● CHILD_TRANSFER_STARTED: The subtask is being migrated. ● CHILD_TRANSFER_COMPLETE: The subtask migration is complete. ● CHILD_TRANSFER_FAILED: The subtask fails to be migrated. ● RELEASE_CHILD_TRANSFER_STARTED: The subtask is being stopped. ● RELEASE_CHILD_TRANSFER_COMPLETE: The subtask is stopped. You can query an abnormal task separately or query all abnormal tasks in the following states: CREATE_FAILED, START_JOB_FAILED, FULL_TRANSFER_FAILED, INCRE_TRANSFER_FAILED, RELEASE_RESOURCE_FAILED, CHANGE_JOB_FAILED and CHILD_TRANSFER_FAILED. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CREATING ● CREATE_FAILED ● CONFIGURATION ● STARTJOBING ● WAITING_FOR_START ● START_JOB_FAILED ● FULL_TRANSFER_STARTED ● FULL_TRANSFER_FAILED ● FULL_TRANSFER_COMPLETE ● INCRE_TRANSFER_STARTED

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • INCRE_TRANSFER_FAILED • RELEASE_RESOURCE_STARTED • RELEASE_RESOURCE_FAILED • RELEASE_RESOURCE_COMPLETE • CHANGE_JOB_STARTED • CHANGE_JOB_FAILED • CHILD_TRANSFER_STARTING • CHILD_TRANSFER_STARTED • CHILD_TRANSFER_COMPLETE • CHILD_TRANSFER_FAILED • RELEASE_CHILD_TRANSFER_STARTED • RELEASE_CHILD_TRANSFER_COMPLETE
engine_type	No	String	<p>Engine type. Values:</p> <ul style="list-style-type: none"> • oracle-to-gaussdbv5: Synchronization from Oracle to GaussDB distributed. • redis-to-gaussredis: Migration from Redis to GeminiDB Redis. • rediscluster-to-gaussredis: Migration from cluster Redis to GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> • oracle-to-gaussdbv5 • redis-to-gaussredis • rediscluster-to-gaussredis

Parameter	Mandatory	Type	Description
net_type	No	String	Network type. Values: <ul style="list-style-type: none"> • eip: public network. • vpc: VPC network. • vpn: VPN or Direct Connect. Enumerated values: <ul style="list-style-type: none"> • eip • vpc • vpn
enterprise_project_id	No	String	Enterprise project ID. Default value: "", indicating that tasks in all enterprise projects are queried.
offset	No	Integer	Offset. The records after this offset will be queried.
limit	No	Integer	Maximum number of records that can be returned.
sort_key	No	String	The keyword based on which the returned results are sorted. The default value is create_time .
sort_dir	No	String	Result sorting order. The value can be desc (descending order) or asc (ascending order). The default value is desc .
instance_ids	No	Array of strings	List of database instance IDs. The default value is null , indicating that database instance IDs are not used for task filtering.
instance_ip	No	String	IP address of the database instance bound to the DRS. The default value is "", indicating that the IP address of the database instance bound to the DRS is not used for task filtering.

Request Parameters

Table 7-31 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-32 Response body parameters

Parameter	Type	Description
total_count	Integer	Total number of tasks in the list, which is irrelevant to pagination.
jobs	Array of objects	Task details. For details, see Table 7-33 .

Table 7-33 Data structure description of field **jobs**

Parameter	Type	Description
id	String	Task ID.
name	String	Task name.

Parameter	Type	Description
status	String	<p>Task status. Values:</p> <ul style="list-style-type: none"> ● CREATING: The task is being created. ● CREATE_FAILED: The task fails to be created. ● CONFIGURATION: The task is being configured. ● STARTJOBING: The task is being started. ● WAITING_FOR_START: The task is waiting to be started. ● START_JOB_FAILED: The task fails to be started. ● FULL_TRANSFER_STARTED: Full migration is in progress, and the initialization is in progress in the DR scenario. ● FULL_TRANSFER_FAILED: Full migration fails, and the initialization fails in the DR scenario. ● FULL_TRANSFER_COMPLETE: Full migration is complete, and the initialization is complete in the DR scenario. ● INCRE_TRANSFER_STARTED: Incremental migration is in progress, and the disaster recovery is in progress in the DR scenario. ● INCRE_TRANSFER_FAILED: Incremental migration fails, and a DR exception occurs. ● RELEASE_RESOURCE_STARTED: The task is being stopped. ● RELEASE_RESOURCE_FAILED: The task fails to be stopped. ● RELEASE_RESOURCE_COMPLETE: The task is stopped. ● CHANGE_JOB_STARTED: The task is being changed. ● CHANGE_JOB_FAILED: The task fails to be changed. ● CHILD_TRANSFER_STARTING: The subtask is being started. ● CHILD_TRANSFER_STARTED: The subtask is being migrated. ● CHILD_TRANSFER_COMPLETE: The subtask migration is complete. ● CHILD_TRANSFER_FAILED: The subtask fails to be migrated.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● RELEASE_CHILD_TRANSFER_STARTED: The subtask is being stopped. ● RELEASE_CHILD_TRANSFER_COMPLETE: The subtask is stopped. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CREATING ● CREATE_FAILED ● CONFIGURATION ● STARTJOBING ● WAITING_FOR_START ● START_JOB_FAILED ● FULL_TRANSFER_STARTED ● FULL_TRANSFER_FAILED ● FULL_TRANSFER_COMPLETE ● INCRE_TRANSFER_STARTED ● INCRE_TRANSFER_FAILED ● RELEASE_RESOURCE_STARTED ● RELEASE_RESOURCE_FAILED ● RELEASE_RESOURCE_COMPLETE ● CHANGE_JOB_STARTED ● CHANGE_JOB_FAILED ● CHILD_TRANSFER_STARTING ● CHILD_TRANSFER_STARTED ● CHILD_TRANSFER_COMPLETE ● CHILD_TRANSFER_FAILED ● RELEASE_CHILD_TRANSFER_STARTED ● RELEASE_CHILD_TRANSFER_COMPLETE
description	String	Task description.
create_time	String	Task creation time.

Parameter	Type	Description
engine_type	String	<p>Engine type. The value can be:</p> <ul style="list-style-type: none"> ● oracle-to-gaussdbv5: Synchronization from Oracle to GaussDB distributed. ● redis-to-gaussredis: Migration from Redis to GeminiDB Redis. ● rediscluster-to-gaussredis: Migration from cluster Redis to GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● oracle-to-gaussdbv5 ● redis-to-gaussredis ● rediscluster-to-gaussredis
net_type	String	<p>Network type. Values:</p> <ul style="list-style-type: none"> ● eip: public network. ● vpc: VPC network. The VPC network cannot be selected in DR scenarios. ● vpn: VPN or Direct Connect. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● eip ● vpc ● vpn
charging_mode	String	<p>Billing mode. Values:</p> <ul style="list-style-type: none"> ● period: indicates the yearly/monthly billing. ● on_demand: indicates the pay-per-use billing. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● period ● on_demand
billing_tag	Boolean	Whether to support billing.
job_direction	String	<p>Task direction. Values:</p> <ul style="list-style-type: none"> ● up: to-the-cloud scenarios and DR scenarios where the current cloud is the standby. ● down: out-of-cloud scenarios and DR scenarios where the current cloud is the active. ● non-dbs: self-built databases. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● up ● down ● non-dbs

Parameter	Type	Description
job_type	String	<p>Task scenario. Values:</p> <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery. <p>Enumerated values:</p> <ul style="list-style-type: none"> • migration • sync • cloudDataGuard
task_type	String	<p>Migration type. Values:</p> <ul style="list-style-type: none"> • FULL_TRANS: full migration. • FULL_INCR_TRANS: full+incremental migration. • INCR_TRANS: incremental migration. <p>Enumerated values:</p> <ul style="list-style-type: none"> • FULL_TRANS • FULL_INCR_TRANS • INCR_TRANS
enterprise_project_id	String	Enterprise project ID.
job_mode	String	<p>Task mode. Values:</p> <ul style="list-style-type: none"> • single: indicates a single task. • sync_child: indicates a subtask to be synchronized. • multi_to_single: indicates a many-to-one task. <p>Enumerated values:</p> <ul style="list-style-type: none"> • single • sync_child • multi_to_single

Parameter	Type	Description
job_mode_role	String	Task role. Values: <ul style="list-style-type: none"> ● parent: indicates a parent task. ● child: indicates a subtask. ● master: indicates a primary task. ● slave: indicates a standby task. Enumerated values: <ul style="list-style-type: none"> ● parent ● child ● master ● slave
is_multi_az	Boolean	Whether the task is a primary/standby task.
node_role	String	Node role.
node_new_framework	Boolean	Whether the framework is a new framework.
job_action	Object	The set of task operation commands. For details, see Table 7-35 .
children	Array of objects	Information body of a subtask list. For details, see Table 7-34 .

Table 7-34 Data structure description of field **children**

Parameter	Type	Description
id	String	Task ID.
name	String	Task name.

Parameter	Type	Description
status	String	<p>Task status. Values:</p> <ul style="list-style-type: none"> ● CREATING: The task is being created. ● CREATE_FAILED: The task fails to be created. ● CONFIGURATION: The task is being configured. ● STARTJOBING: The task is being started. ● WAITING_FOR_START: The task is waiting to be started. ● START_JOB_FAILED: The task fails to be started. ● FULL_TRANSFER_STARTED: Full migration is in progress, and the initialization is in progress in the DR scenario. ● FULL_TRANSFER_FAILED: Full migration fails, and the initialization fails in the DR scenario. ● FULL_TRANSFER_COMPLETE: Full migration is complete, and the initialization is complete in the DR scenario. ● INCRE_TRANSFER_STARTED: Incremental migration is in progress, and the disaster recovery is in progress in the DR scenario. ● INCRE_TRANSFER_FAILED: Incremental migration fails, and a DR exception occurs. ● RELEASE_RESOURCE_STARTED: The task is being stopped. ● RELEASE_RESOURCE_FAILED: The task fails to be stopped. ● RELEASE_RESOURCE_COMPLETE: The task is stopped. ● CHANGE_JOB_STARTED: The task is being changed. ● CHANGE_JOB_FAILED: The task fails to be changed. ● CHILD_TRANSFER_STARTING: The subtask is being started. ● CHILD_TRANSFER_STARTED: The subtask is being migrated. ● CHILD_TRANSFER_COMPLETE: The subtask migration is complete. ● CHILD_TRANSFER_FAILED: The subtask fails to be migrated.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● RELEASE_CHILD_TRANSFER_STARTED: The subtask is being stopped. ● RELEASE_CHILD_TRANSFER_COMPLETE: The subtask is stopped. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CREATING ● CREATE_FAILED ● CONFIGURATION ● STARTJOBING ● WAITING_FOR_START ● START_JOB_FAILED ● FULL_TRANSFER_STARTED ● FULL_TRANSFER_FAILED ● FULL_TRANSFER_COMPLETE ● INCRE_TRANSFER_STARTED ● INCRE_TRANSFER_FAILED ● RELEASE_RESOURCE_STARTED ● RELEASE_RESOURCE_FAILED ● RELEASE_RESOURCE_COMPLETE ● CHANGE_JOB_STARTED ● CHANGE_JOB_FAILED ● CHILD_TRANSFER_STARTING ● CHILD_TRANSFER_STARTED ● CHILD_TRANSFER_COMPLETE ● CHILD_TRANSFER_FAILED ● RELEASE_CHILD_TRANSFER_STARTED ● RELEASE_CHILD_TRANSFER_COMPLETE
description	String	Task description.
create_time	String	Task creation time.

Parameter	Type	Description
engine_type	String	<p>Engine type. The value can be:</p> <ul style="list-style-type: none"> ● oracle-to-gaussdbv5: Synchronization from Oracle to GaussDB distributed. ● redis-to-gaussredis: Migration from Redis to GeminiDB Redis. ● rediscluster-to-gaussredis: Migration from cluster Redis to GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● oracle-to-gaussdbv5 ● redis-to-gaussredis ● rediscluster-to-gaussredis
net_type	String	<p>Network type. Values:</p> <ul style="list-style-type: none"> ● eip: public network. ● vpc: VPC network. The VPC network cannot be selected in DR scenarios. ● vpn: VPN or Direct Connect. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● eip ● vpc ● vpn
charging_mode	String	<p>Billing mode. Values:</p> <ul style="list-style-type: none"> ● period: indicates the yearly/monthly billing. ● on_demand: indicates the pay-per-use billing. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● period ● on_demand
billing_tag	Boolean	Whether to support billing.
job_direction	String	<p>Task direction. Values:</p> <ul style="list-style-type: none"> ● up: to-the-cloud scenarios and DR scenarios where the current cloud is the standby. ● down: out-of-cloud scenarios and DR scenarios where the current cloud is the active. ● non-dbs: self-built databases. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● up ● down ● non-dbs

Parameter	Type	Description
job_type	String	<p>Task scenario. Values:</p> <ul style="list-style-type: none"> ● migration: real-time migration. ● sync: real-time synchronization. ● cloudDataGuard: real-time disaster recovery. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● migration ● sync ● cloudDataGuard
task_type	String	<p>Task mode. Values:</p> <ul style="list-style-type: none"> ● FULL_TRANS: full migration. ● FULL_INCR_TRANS: full+incremental migration. ● INCR_TRANS: incremental migration. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● FULL_TRANS ● FULL_INCR_TRANS ● INCR_TRANS
enterprise_project_id	String	Enterprise project ID.
job_mode	String	<p>Task mode. Values:</p> <ul style="list-style-type: none"> ● single: indicates a single task. ● sync_child: indicates a subtask to be synchronized. ● multi_to_single: indicates a many-to-one task. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● single ● sync_child ● multi_to_single

Parameter	Type	Description
job_mode_role	String	Task role. Values: <ul style="list-style-type: none"> ● parent: indicates a parent task. ● child: indicates a subtask. ● master: indicates a primary task. ● slave: indicates a standby task. Enumerated values: <ul style="list-style-type: none"> ● parent ● child ● master ● slave
is_multi_az	Boolean	Whether the task is a primary/standby task.
node_role	String	Node role.
node_new_framework	Boolean	Whether the framework is a new framework.
job_action	Object	The set of task operation commands. For details, see Table 7-35 .

Table 7-35 Data structure description of field **job_action**

Parameter	Type	Description
available_actions	Array of strings	The set of operation commands that can be executed for a task.
unavailable_actions	Array of strings	The set of operation commands that cannot be executed for a task.

Parameter	Type	Description
current_action	String	<p>Current operation command of a task. Values:</p> <ul style="list-style-type: none"> ● API_CONFIGURATION_ACTION: indicates the operation command for calling a configuration API of a task. ● CHANGE: indicates the operation command for modifying a task. ● CHANGE_MODE: indicates the operation command for changing the task mode. ● CHOOSE_OBJECT: indicates the operation command for selecting an object. ● CLONE: indicates the operation command for cloning a task. ● CONTINUE_APPLY: indicates the operation command for starting data replay. This parameter is available for synchronization from Oracle to GaussDB distributed. ● CONTINUE_APPLY: indicates the operation command for starting data capture. This parameter is available for synchronization from Oracle to GaussDB distributed. ● CONTINUE_JOB: indicates the operation command for resuming a failed or stopped task. This parameter is available for synchronization from Oracle to GaussDB distributed. ● CREATE: indicates the operation command for creating a task. ● DELETE: indicates the operation command for deleting a task. ● FREE_RESOURCE: indicates the operation command for releasing resources. ● JUMP_RETRY: indicates the operation command for skipping a resumable task. ● MODIFY_CONFIGURATION: indicates the operation command for modifying task configurations. ● MODIFY_DB_CONFIG: indicates the operation command for modifying database configurations. ● MODIFY_TASK_NUMBER: indicates the operation command for modifying the number of threads. ● NODE_FLAVOR_MODIFY: indicates the operation command for changing node specifications.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● ORDER_INFO: indicates the operation command for querying order details. ● PAUSE: indicates the operation command for pausing a task. ● PAY_ORDER: indicates the operation command for paying the yearly/monthly order. ● PRE_CHECK: indicates the operation command for pre-check. ● QUERY_PRE_CHECK: indicates the operation command for querying the precheck result. ● RESET: indicates the operation command for resetting a task. ● RESET_DB_PWD: indicates the operation command for resetting the password of the source or destination database. ● RETRY: indicates the operation command for retrying a task. ● START: indicates the operation command for starting a task. ● START_INCR: indicates the operation command for starting an incremental task. ● STOP_APPLY: indicates the operation command for stopping data replay. This parameter is available for synchronization from Oracle to GaussDB distributed. ● STOP_CAPTURE: indicates the operation command for stopping data capture. This parameter is available for synchronization from Oracle to GaussDB distributed. ● STOP_JOB: indicates the operation command for stopping a task. This parameter is available for synchronization from Oracle to GaussDB distributed. ● SWITCH_OVER: indicates the operation command for performing a DR switchover. ● TO_PERIOD: indicates the operation command for changing the billing mode to yearly/monthly. ● TO_RENEW: indicates the operation command for renewing a yearly/monthly task. ● UNSUBSCRIBE: indicates the operation command for unsubscribing from a yearly/monthly task.

Parameter	Type	Description
		Enumerated values: <ul style="list-style-type: none"> • API_CONFIGURATION_ACTION • CHANGE • CHANGE_MODE • CHOOSE_OBJECT • CLONE • CONTINUE_APPLY • CONTINUE_CAPTURE • CONTINUE_JOB • CREATE • DELETE • FREE_RESOURCE • JUMP_RETRY • MODIFY_CONFIGURATION • MODIFY_DB_CONFIG • MODIFY_TASK_NUMBER • NODE_FLAVOR_MODIFY • ORDER_INFO • PAUSE • PAY_ORDER • PRE_CHECK • QUERY_PRE_CHECK • RESET • RESET_DB_PWD • RETRY • START • START_INCR • STOP_APPLY • STOP_CAPTURE • STOP_JOB • SWITCH_OVER • TO_PERIOD • TO_RENEW • UNSUBSCRIBE

Status code: 400

Table 7-36 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

- Querying the real-time DR task list

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs?
job_type=cloudDataGuard&name=&status=&engine_type=&net_type=&enterprise_project_id=&offset=0
&limit=10&sort_key=create_time&sort_dir=desc
```
- Querying the real-time migration task list

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs?
job_type=migration&name=&status=&engine_type=&net_type=&enterprise_project_id=&offset=0&limit
=10&sort_key=create_time&sort_dir=desc
```
- Querying the real-time synchronization task list

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs?
job_type=sync&name=&status=&engine_type=&net_type=&enterprise_project_id=&offset=0&limit=10&s
ort_key=create_time&sort_dir=desc
```
- Querying the real-time DR task list based on the database IP address

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs?
job_type=cloudDataGuard&name=&status=&engine_type=&net_type=&enterprise_project_id=&offset=0
&limit=10&sort_key=create_time&sort_dir=desc&instance_ip=127.0.0.1
```
- Querying the real-time DR task list based on the database ID

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs?
job_type=cloudDataGuard&name=&status=&engine_type=&net_type=&enterprise_project_id=&offset=0
&limit=10&sort_key=create_time&sort_dir=desc&instance_ids=id1&instance_ids=id2
```
- Querying the real-time synchronization task list using multiple task IDs

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs?name=bee869bc-15c0-4b3b-a34b-
bf0d5efjb201,c2a61a77-6e55-4cd8-8be1-a562cc6jb201&job_type=sync
```

Example Response

Status code: 200

OK

```
{
  "jobs" : [ {
    "id" : "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r",
    "name" : "DRS-1234",
    "status" : "CONFIGURATION",
    "create_time" : "2022-11-07T16:15:18Z",
    "engine_type" : "oracle-to-gaussdbv5",
    "job_direction" : "up",
    "task_type" : "FULL_INCR_TRANS",
    "job_action" : {
      "available_actions" : [ "FREE_RESOURCE", "PRE_CHECK", "MODIFY_CONFIGURATION", "CHANGE" ],
      "unavailable_actions" : [ "CREATE", "START", "CHOOSE_OBJECT", "RETRY", "RESET", "DELETE",
"QUERY_PRE_CHECK", "CHANGE_MODE", "MODIFY_DB_CONFIG", "SWITCH_OVER", "RESET_DB_PWD",
```

```
"PAUSE", "JUMP_RETRY", "START_INCR", "MODIFY_TASK_NUMBER", "CONTINUE_JOB", "STOP_JOB",  
"CONTINUE_CAPTURE", "STOP_CAPTURE", "CONTINUE_APPLY", "APL_CONFIGURATION_ACTION",  
"STOP_APPLY", "PAY_ORDER", "UNSUBSCRIBE", "TO_PERIOD", "TO_RENEW", "ORDER_INFO", "CLONE" ],  
  "current_action" : null  
  }  
  }],  
  "total_count" : 1  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "DRS.10000001",  
  "error_msg" : "Failed."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.2.3 Updating Details About a Task with a Specified ID

Function

This API is used to update details about a task with a specified ID.

Constraints

- This API is available only for synchronization from MySQL to MySQL, migration from Redis to GeminiDB Redis, migration from cluster Redis to GeminiDB Redis, synchronization from Oracle to GaussDB Distributed, and synchronization from GaussDB Primary/Standby to Kafka.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

PUT /v5/{project_id}/jobs/{job_id}

Table 7-37 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-38 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Table 7-39 Request body parameters

Parameter	Mandatory	Type	Description
job	Yes	Object	Request body for updating a task with a specified ID. For details, see Table 7-40 .

Table 7-40 Data structure description of field **job**

Parameter	Mandatory	Type	Description
type	Yes	String	Type of the task details to be updated with a specified ID. If you update details about a single task, the values can be: <ul style="list-style-type: none"> • name: Update the task name. • description: Update the task description. • endpoint: Update the source or destination database information if the connection test fails. • policy: Update the task configuration. • re_create: Recreate a task if VM resources of the task are deleted three days after it is in the Configuration state. • expired_days: Update the number of days after which an abnormal task is automatically stopped. • notify: Update task exception notification information. Enumerated values: <ul style="list-style-type: none"> • name • description • endpoint • re_create • expired_days • policy • notify

Parameter	Mandatory	Type	Description
params	Yes	Object	Parameters of the task details to be updated with a specified ID. For details, see Table 7-41 .

Table 7-41 Data structure description of field **params**

Parameter	Mandatory	Type	Description
job_id	No	String	ID of the task to be updated.
base_info	No	Object	Basic information body of a task. This parameter is mandatory when type is set to name or description . For details, see Table 7-42 .
source_endpoint	No	Array of objects	Source database information body of a task. This parameter is mandatory when type is set to endpoint . For details, see Table 7-44 .
target_endpoint	No	Array of objects	Destination database information body of a task. This parameter is mandatory when type is set to endpoint . For details, see Table 7-44 .
alarm_notify	No	Object	Information body for setting task exception notification. For details, see Table 7-51 .

Parameter	Mandatory	Type	Description
speed_limit	No	Array of objects	<p>Flow control information body. This parameter is mandatory when type is set to speed_limit.</p> <ul style="list-style-type: none"> • If you enable flow control, you can customize the maximum migration speed. • If you disable flow control, the migration speed is not limited and the outbound bandwidth of the source database is maximally used, which causes read consumption on the source database accordingly. For example, if the outbound bandwidth of the source database is 100 MB/s and 80% bandwidth is used, the I/O consumption on the source database is 80 MB/s. For details, see Table 7-52.
user_migration	No	Object	<p>User migration information body. For details, see Table 7-53.</p>
policy_config	No	Object	<p>Policy information body. This parameter is used to configure migration and synchronization policies, including the conflict policy, DROP DATASE filtering, and object synchronization scope. This parameter is mandatory when type is set to policy. For details, see Table 7-56.</p>
db_object	No	Object	<p>Database object information body. This parameter is used to select databases or tables to be migrated for migration and synchronization tasks. This parameter is mandatory when type is set to db_object. For details, see Table 7-57.</p>

Parameter	Mandatory	Type	Description
db_param	No	Object	Database parameter information body. For details, see Table 7-63 .
tuning_parameters	No	Object	Advanced setting information body. This parameter is mandatory when type is set to tuning_param . For details, see Table 7-65 .
period_order	No	Object	Yearly/Monthly information body. For details, see Table 7-66 .
node_info	No	Object	Information body of the DRS instance. For details, see Table 7-67 .

Table 7-42 Data structure description of field **base_info**

Parameter	Mandatory	Type	Description
name	No	String	Task name. The task name can be 4 to 50 characters in length. It is case-insensitive and can contain only letters, digits, hyphens (-), and underscores (_). <ul style="list-style-type: none"> • Minimum length: 4 • Maximum length: 50 Minimum length: 4 Maximum length: 50
job_type	No	String	Task scenario. Values: <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery. Enumerated values: <ul style="list-style-type: none"> • migration • sync • cloudDataGuard

Parameter	Mandatory	Type	Description
multi_write	No	Boolean	<p>Whether the DR type is dual-active. Note:</p> <ul style="list-style-type: none"> This parameter is mandatory when job_type is set to cloudDataGuard. If the DR type is dual-active, the value of multi_write is true. Otherwise, the value is false. If job_type is set to other values, multi_write is optional.
engine_type	No	String	<p>Engine type. The value can be:</p> <ul style="list-style-type: none"> oracle-to-gaussdbv5: Synchronization from Oracle to GaussDB distributed. redis-to-gaussredis: Migration from Redis to GeminiDB Redis. rediscluster-to-gaussredis: Migration from cluster Redis to GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> oracle-to-gaussdbv5 redis-to-gaussredis rediscluster-to-gaussredis
job_direction	No	String	<p>Migration direction. Values:</p> <ul style="list-style-type: none"> up: to-the-cloud scenarios and DR scenarios where the current cloud is the standby. down: out-of-cloud scenarios and DR scenarios where the current cloud is the active. non-dbs: self-built databases. <p>Enumerated values:</p> <ul style="list-style-type: none"> up down non-dbs

Parameter	Mandatory	Type	Description
task_type	No	String	Migration type. Values: <ul style="list-style-type: none"> ● FULL_TRANS: full migration. ● FULL_INCR_TRANS: full +incremental migration. ● INCR_TRANS: incremental migration. Enumerated values: <ul style="list-style-type: none"> ● FULL_TRANS ● FULL_INCR_TRANS ● INCR_TRANS
net_type	No	String	Network type. Values: <ul style="list-style-type: none"> ● eip: public network. ● vpc: VPC network. The VPC network cannot be selected in DR scenarios. ● vpn: VPN or Direct Connect. Enumerated values: <ul style="list-style-type: none"> ● eip ● vpc ● vpn
charging_mode	No	String	Billing mode. The pay-per-use billing is used by default. Values: <ul style="list-style-type: none"> ● period: indicates the yearly/monthly billing. ● on_demand: indicates the pay-per-use billing. Enumerated values: <ul style="list-style-type: none"> ● period ● on_demand
enterprise_project_id	No	String	Enterprise project ID. The default value is 0 , indicating the default enterprise project. Default value: 0

Parameter	Mandatory	Type	Description
description	No	String	Task description. The task description can contain a maximum of 256 characters and cannot contain the following special characters: ! <>'&"\ Minimum length: 0 Maximum length: 256
start_time	No	String	Scheduled start time of a task.
expired_days	No	String	Number of days after which an abnormal task automatically stops. The unit is day. The value ranges from 14 to 100. If this parameter is not specified, the default value is 14 . Default value: 14
tags	No	Array of objects	Tag information. Up to 20 tags can be added. For details, see Table 7-43 .

Table 7-43 Data structure description of field **tags**

Parameter	Mandatory	Type	Description
key	No	String	Tag key. The value can contain a maximum of 36 characters, including letters, digits, underscores (_), and hyphens (-). Minimum length: 1 Maximum length: 36
value	No	String	Tag value. The value can contain a maximum of 43 characters, including letters, digits, underscores (_), and hyphens (-). Minimum length: 1 Maximum length: 43

Table 7-44 Data structure description of fields **source_endpoint** and **target_endpoint**

Parameter	Mandatory	Type	Description
db_type	Yes	String	Database type. Values: <ul style="list-style-type: none"> • oracle: Oracle. • gaussdbv5: GaussDB distributed. • redis: Redis. • rediscluster: Cluster Redis. • gaussredis: GeminiDB Redis. Enumerated values: <ul style="list-style-type: none"> • oracle • gaussdbv5 • redis • rediscluster • gaussredis
endpoint_type	Yes	String	DB instance type. Values: <ul style="list-style-type: none"> • offline: indicates an on-premises database. • ecs: indicates a database built on Huawei Cloud ECSs. • cloud: indicates a Huawei cloud database. Enumerated values: <ul style="list-style-type: none"> • offline • ecs • cloud
endpoint_role	Yes	String	DB instance role. Values: <ul style="list-style-type: none"> • so: indicates the source database. • ta: indicates the destination database. Enumerated values: <ul style="list-style-type: none"> • so • ta
endpoint	Yes	Object	Basic information body of the database. For details, see Table 7-45 .

Parameter	Mandatory	Type	Description
cloud	No	Object	Region and project where a DB instance is located. For details, see Table 7-46 .
vpc	No	Object	Information about the VPC, subnet, and security group where a DB instance resides. For details, see Table 7-47 .
config	No	Object	Basic information body of database settings. For details, see Table 7-48 .
ssl	No	Object	Information body of the database SSL certificate. For details, see Table 7-49 .
customized_dns	No	Object	Custom DNS server. For details, see Table 7-50 .

Table 7-45 Data structure description of fields **endpoint** and **source_sharding**

Parameter	Mandatory	Type	Description
id	No	String	Database information ID.

Parameter	Mandatory	Type	Description
endpoint_name	Yes	String	<p>Database scenario type.</p> <p>Values:</p> <ul style="list-style-type: none"> • oracle: indicates the on-premises Oracle database. • ecs_oracle: indicates the Oracle database built on Huawei Cloud ECSs. • cloud_gaussdbv5: indicates the Huawei Cloud distributed GaussDB database. • mysql: indicates the MySQL database built on other clouds or on-premises MySQL database. • ecs_mysql: indicates the MySQL database built on Huawei Cloud ECSs. • cloud_mysql: indicates the Huawei Cloud RDS for MySQL database. • redis: On-premises Redis database. • ecs_redis: Redis database built on Huawei Cloud ECSs. • rediscluster: On-premises cluster Redis database. • ecs_rediscluster: Cluster Redis database built on Huawei Cloud ECSs. • cloud_gaussdb_redis: Huawei Cloud GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> • oracle • ecs_oracle • cloud_gaussdbv5 • mysql • ecs_mysql • cloud_mysql • redis • ecs_redis • rediscluster

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none">• <code>ecs_rediscluster</code>• <code>cloud_gaussdb_redis</code>

Parameter	Mandatory	Type	Description
ip	No	String	<p>Database IP address. Note:</p> <ul style="list-style-type: none"> • If an on-premises MongoDB database is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. A maximum of three IP addresses or domain names can be entered. • If a DDS instance is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. • If the database is a cluster Redis database, enter the IP addresses and port numbers of all shards in the source cluster Redis database. Use colons (:) to separate a database IP address and port number. Use commas (,) to separate multiple values. You are advised to enter the IP address of the slave node of a cluster shard. Up to 32 IP addresses or domain names can be entered. Use commas (,) to separate multiple IP addresses or domain names. <p>Example:</p> <ul style="list-style-type: none"> • MongoDB: 192.168.0.10:8080,192.168.0.11:8080,192.168.0.12:8080 • DDS: 192.168.205.130:8635,192.168.250.64:8635 • Cluster Redis: 192.168.0.1:8080,192.168.0.2:8080

Parameter	Mandatory	Type	Description
db_port	No	String	Database port. The value is an integer ranging from 1 to 65535.
db_user	Yes	String	Database username.
db_password	Yes	String	Database password.
instance_id	No	String	ID of a Huawei Cloud DB instance.
instance_name	No	String	Name of a Huawei Cloud DB instance.
db_name	No	String	Database name. Example: <ul style="list-style-type: none">• oracle: serviceName.orcl.
source_sharding	No	Array of objects	Information about the physical source database. For details, see Table 7-45 .

Table 7-46 Data structure description of field **cloud**

Parameter	Mandatory	Type	Description
region	Yes	String	Region ID. This parameter is mandatory when DB Instance Type is set to ecs (database built on Huawei Cloud ECSs) or cloud (Huawei cloud database). For details, see Regions and Endpoints . Note: If there are subprojects in a region, the region ID is a combination of the regional project ID and subproject ID, which are combined using an underscore (_).
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
az_code	No	String	Name of the AZ where the database is located.

Table 7-47 Data structure description of field **vpc**

Parameter	Mandatory	Type	Description
vpc_id	Yes	String	ID of the VPC where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. Method 2: Call the API for querying VPCs. For details, see Querying VPCs .
subnet_id	Yes	String	ID of the subnet where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and click the target subnet on the Subnets page to view the network ID on the displayed page. Method 2: Call the API for querying subnets. For details, see Querying Subnets .
security_group_id	No	String	ID of the security group where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console. Choose Access Control > Security Groups in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page. Method 2: Call the API for querying security groups. For details, see Querying Security Groups .

Table 7-48 Data structure description of field **config**

Parameter	Mandatory	Type	Description
is_target_read_only	No	Boolean	Whether the destination DB instance is set to read-only. This parameter is available only when job_direction is set to up during MySQL migration and DR. In the DR scenario, this parameter is mandatory and set to true if the current cloud is the standby in single-active DR. If this parameter is not specified, the default value is true . Default value: true
node_num	No	Integer	Number of subtasks connected to the source cluster Redis instance for data migration from cluster Redis to GeminiDB Redis. The value ranges from 1 to 16 and cannot be greater than the number of shards in the source cluster Redis instance. Set this parameter based on the scale of the source cluster Redis instance. You are advised to set one subtask to connect to four shards in the source cluster Redis instance. Minimum value: 1 Maximum value: 16 Default value: 0

Table 7-49 Data structure description of field **ssl**

Parameter	Mandatory	Type	Description
ssl_link	No	Boolean	Whether SSL is enabled. If SSL is enabled, the value of this parameter is true .
ssl_cert_name	No	String	SSL certificate name.
ssl_cert_key	No	String	SSL certificate content, which is encrypted using Base64.

Parameter	Mandatory	Type	Description
ssl_cert_check_sum	No	String	The checksum value of the SSL certificate, which is used for backend verification. This parameter is mandatory for secure connection to the source database.
ssl_cert_password	No	String	SSL certificate password. This parameter is mandatory if the certificate file name extension is .p12.

Table 7-50 Data structure description of field **customized_dns**

Parameter	Mandatory	Type	Description
is_set_dns	Yes	Boolean	Specifies whether to set your own DNS server.
set_dns_action	Yes	String	Behavior of setting your own DNS server. <ul style="list-style-type: none"> • add: Add a customized DNS server IP address. • keep: Retain the DNS server IP address. • update: Update the customized DNS server IP address. (The update takes effect when the DNS server IP address changes.) • recover: Restore the default DNS server IP address. (Restoration may cause domain name resolution failures. Exercise caution when performing this operation.) Enumerated values: <ul style="list-style-type: none"> • add • keep • update • recover
dns_ip	Yes	String	DNS server IP address. Minimum length: 0 Maximum length: 15

Table 7-51 Data structure description of field **alarm_notify**

Parameter	Mandatory	Type	Description
alarm_to_user	Yes	Boolean	Whether to notify users of alarms. Default value: false
topic_urn	No	String	SMN topic URN.
delay_time	No	Long	Delay threshold, in seconds. Values: <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0 NOTE <ul style="list-style-type: none"> • A synchronization delay indicates a time difference (in seconds) of synchronization between the source and destination database. • If the delay exceeds a specified value and lasts for 6 minutes, DRS will notify specified recipients. (In the early stages of an incremental migration, there is more delay because more data is waiting to be synchronized. In this situation, no notifications will be sent.) • This option is available only for full+incremental tasks.
rpo_delay	No	Long	RPO delay threshold, in seconds. Values: <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0 NOTE <p>If the RPO delay between the service database and the DRS instance exceeds a specified value and lasts for 6 minutes, DRS will notify specified recipients. (In the early stages of an incremental DR, there is more delay because more data is waiting to be synchronized. In this situation, no notifications will be sent.)</p>

Parameter	Mandatory	Type	Description
rto_delay	No	Long	RTO delay threshold, in seconds. Values: <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0 NOTE If the RTO delay between the DRS instance and the DR database exceeds a specified value and lasts for 6 minutes, DRS will notify specified recipients.

Table 7-52 Data structure description of field **speed_limit**

Parameter	Mandatory	Type	Description
begin	Yes	String	Start time (UTC) of flow control. The start time is an integer in hh:mm format and the minutes part is ignored. hh indicates the hour, for example, 01:00.
end	Yes	String	End time (UTC) in the format of hh:mm, for example, 15:59. The value must end with 59.
speed	Yes	String	Speed. The value ranges from 1 to 9,999, in MB/s.

Table 7-53 Data structure description of field **user_migration**

Parameter	Mandatory	Type	Description
is_migrate_user	Yes	Boolean	Whether to migrate users.

Parameter	Mandatory	Type	Description
is_set_password	Yes	Boolean	Whether to reset a unified password. Values: <ul style="list-style-type: none"> • true: Reset a unified password. • false: Do not reset a unified password. The following scenarios are supported: <ul style="list-style-type: none"> • Real-time migration: MySQL migration.
password	No	String	Unified password. This parameter is mandatory when is_set_password is set to true . The password cannot be empty.
user_list	No	Array of objects	User list in the migration objects. The following scenarios are supported: <ul style="list-style-type: none"> • Real-time migration: MySQL-to-MySQL migration and MongoDB-to-DDS migration. For details, see Table 7-54 .
role_list	No	Array of objects	User role in the migration objects. The following scenarios are supported: <ul style="list-style-type: none"> • Real-time migration: MongoDB-to-DDS migration. For details, see Table 7-55 .

Table 7-54 Data structure description of field **user_list**

Parameter	Mandatory	Type	Description
id	Yes	String	User ID.
account	Yes	String	User.
is_set_password	No	Boolean	Whether to reset the user password. The following scenarios are supported: <ul style="list-style-type: none"> • Real-time migration: MySQL migration.

Parameter	Mandatory	Type	Description
password	No	String	New password. This parameter is mandatory when is_set_password is set to true . The password cannot be empty.

Table 7-55 Data structure description of field **role_list**

Parameter	Mandatory	Type	Description
role	Yes	String	Role.

Table 7-56 Data structure description of field **policy_config**

Parameter	Mandatory	Type	Description
filter_ddl_policy	No	String	DDL filtering policy. Values: <ul style="list-style-type: none"> drop_database Scenarios: <ul style="list-style-type: none"> Real-time migration: For MySQL migration, this parameter can be set to "", indicating that DROP DATABASE is not filtered. Real-time synchronization: For MySQL synchronization, this parameter can only be set to drop_database. Enumerated values: <ul style="list-style-type: none"> drop_database

Parameter	Mandatory	Type	Description
conflict_policy	No	String	<p>Incremental conflict policy. The conflict policy refers to the conflict handling policy during incremental synchronization. By default, conflicts in the full synchronization phase are ignored. Values:</p> <ul style="list-style-type: none"> ● ignore: Ignore the conflict. The system will ignore the conflicting data and continue the subsequent synchronization process. ● stop: Report an error. The synchronization task will be stopped and fail. You can view the details in synchronization logs. ● overwrite: Overwrite the existing data with the synchronized data. Conflicting data will be overwritten. <p>Scenarios:</p> <ul style="list-style-type: none"> ● Real-time migration: Not supported. ● Real-time synchronization: Supported. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● ignore ● stop ● overwrite

Parameter	Mandatory	Type	Description
index_trans	No	Boolean	Object synchronization scope: indicates whether to synchronize normal indexes. By default, DRS synchronizes the primary key or unique index. A normal index refers to an index other than the primary key or unique index. Values: <ul style="list-style-type: none"> ● true: All indexes will be synchronized. ● false: Only primary key or unique indexes are synchronized. Default value: true
ddl_trans	No	Boolean	Object synchronization scope: indicates whether to synchronize DDLs in the incremental phase. Values: <ul style="list-style-type: none"> ● true: DDLs are synchronized in the incremental phase. ● false: DDLs are not synchronized in the incremental phase. Default value: true
data_sync_topology_type	No	String	Data synchronization topology. Data synchronization supports multiple synchronization topologies. You can plan your synchronization instances based on service requirements. Values: <ul style="list-style-type: none"> ● one2one: one-to-one. ● one2many: one-to-many. ● many2one: many-to-one. Default value: one2one Enumerated values: <ul style="list-style-type: none"> ● one2one ● one2many ● many2one

Parameter	Mandatory	Type	Description
support_ddl_info	No	String	<p>DDLs to be synchronized.</p> <p>Values:</p> <ul style="list-style-type: none"> ● CREATE_TABLE: Create a table. ● ADD_COLUMN: Add a column. ● MODIFY_COLUMN: Modify column attribute. ● CHANGE_COLUMN: Change column attribute. ● DROP_INDEX: Delete an index. ● ADD_INDEX: Add an index. ● CREATE_INDEX: Create an index. ● RENAME_INDEX: Rename an index. <p>Note:</p> <ul style="list-style-type: none"> ● In one-to-one and one-to-many scenarios, if the DDL usage of the source and destination databases must be consistent, high-risk DDLs must be synchronized. ● In one-to-one and one-to-many scenarios, if you do not want a high-risk DDL to be performed in the destination, deselect the high-risk DDL to protect destination data. However, filtering DDL may cause synchronization to fail, for example, column deletion. ● In many-to-one data synchronization tasks, it is recommended that only the ADD COLUMN operation is synchronized, or tasks may fail or data may be inconsistent due to changes in destination tables. Typical failure scenarios are as follows:

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> - Synchronizing the TRUNCATE operation clears all destination data. - Synchronizing the CREATE INDEX operation locks the destination table. - Synchronizing the RENAME operation causes other task failure because the destination table cannot be found. - Synchronizing the MODIFY COLUMN operation causes other task failure due to incompatible data types. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CREATE_TABLE ● ADD_COLUMN ● MODIFY_COLUMN ● CHANGE_COLUMN ● DROP_INDEX ● ADD_INDEX ● CREATE_INDEX ● RENAME_INDEX
sync_type_policy	No	String	<p>Synchronization object type.</p> <p>Values:</p> <ul style="list-style-type: none"> ● supportAllType: All types. ● tableData: Data. ● tableStructure: Table structure. ● constraintData: Index. <p>NOTE Except supportAllType, other types can be specified together, for example, tableData,tableStructure.</p>
increment_read_mode	No	String	<p>Incremental log reading mode for synchronization from Oracle to GaussDB: logminer or xstream.</p>

Parameter	Mandatory	Type	Description
dml_types	No	String	DML synchronization type. The value can be: <ul style="list-style-type: none"> • i: INSERT • u: UPDATE • d: DELETE

Table 7-57 Data structure description of field **db_object**

Parameter	Mandatory	Type	Description
object_scope	Yes	String	Migration or synchronization object scope. Values: <ul style="list-style-type: none"> • all: Migrate or synchronize all objects. • database: database-level migration or synchronization. • table: table-level migration or synchronization. Enumerated values: <ul style="list-style-type: none"> • all • database • table
target_root_db	No	Object	Destination database for database object migration or synchronization. This parameter is mandatory for database synchronization from Layer 2 to Layer 3. For details, see Table 7-58 .
object_info	No	Map<String, DatabaseObject>	Object information for migration or synchronization. If object_scope is set to all , leave this parameter blank. If object_scope is set to database or table , this parameter is mandatory. For details, see Table 7-59 .

Table 7-58 Data structure description of field **target_root_db**

Parameter	Mandatory	Type	Description
db_name	No	String	Database name.
db_encoding	No	String	Encoding format. The default value is UTF-8 .

Table 7-59 Data structure description of field **object_info**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the database in real-time synchronization. Values: config : This parameter is mandatory only when the database is used as an association database in advanced settings for data filtering. In this case, the database and its schemas and tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in schemas and tables . NOTE To synchronize the database-level object, set sync_type to config for the lower-level object. Enumerated values: • config
name	No	String	Name of the database in the destination database (database name mapping).

Parameter	Mandatory	Type	Description
all	No	Boolean	<p>Whether to migrate or synchronize the entire database.</p> <p>NOTE</p> <ul style="list-style-type: none"> • If data filtering, column filtering, and column mapping are required for schemas, tables, and columns in the database, set this parameter to false. Otherwise, set this parameter to true. • If additional columns are required for tables in the database, set this parameter to true and enter additional column information in columns of table-level objects. • If the table columns in the database are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
schemas	No	Map<String,SchemaObject>	<p>Schema to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-60.</p>
tables	No	Map<String,TableObject>	<p>Table to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-61.</p>
total_table_number	No	Integer	<p>Number of tables in the database. If the number of tables exceeds the threshold, this parameter is not displayed.</p>
is_synchronized	No	Boolean	<p>Whether synchronization has been performed.</p>

Table 7-60 Data structure description of field **schemas**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the schema in real-time synchronization. Values: config : This parameter is mandatory only when the schema is used as an association schema in advanced settings for data filtering. In this case, the schema and its tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in tables . NOTE To synchronize the schema-level object, set sync_type to config for the lower-level object.
name	No	String	Name of the schema in the destination database (schema name mapping).
all	No	Boolean	Whether to migrate or synchronize the entire schema. NOTE <ul style="list-style-type: none"> If data filtering, column filtering, and column mapping are required for tables and columns in the schema, set this parameter to false. Otherwise, set this parameter to true. If additional columns are required for tables in the schema, set this parameter to true and enter additional column information in columns of table-level objects. If the table columns in the schema are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.

Parameter	Mandatory	Type	Description
tables	No	Map<String, TableObject >	Table to be migrated or synchronized. This parameter is mandatory when all is set to false . For details, see Table 7-61 .

Table 7-61 Data structure description of field **tables**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the table in real-time synchronization. Values: config : This parameter is mandatory only when the table is used as an association table in advanced settings for data filtering. In this case, the table and its columns will not be synchronized to the destination database. The name , all , filtered , and filter_conditions parameters do not take effect. Enter the associated objects in columns and the configuration criteria in advanced settings for data filtering in config_conditions . NOTE To synchronize the table-level object, set sync_type to config for the lower-level object.
type	No	String	Object type. Values: <ul style="list-style-type: none"> ● table: indicates a table. ● view: indicates a view. ● procedure: indicates a stored procedure. Enumerated values: <ul style="list-style-type: none"> ● table ● view ● procedure
name	No	String	Name of the table in the destination database (table name mapping).

Parameter	Mandatory	Type	Description
all	No	Boolean	<p>Whether to migrate or synchronize the entire table.</p> <p>NOTE</p> <ul style="list-style-type: none"> If column filtering and column mapping are not required for the table, set this parameter to true. Otherwise, set this parameter to false. If additional columns are required for the table, set this parameter to true and enter additional column information in columns. If the table columns are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
db_alias_name	No	String	Mapping of database names at the table level in the one-to-many scenario.
schema_alias_name	No	String	Mapping of schema names at the table level in the one-to-many scenario.
filtered	No	Boolean	Whether to filter data in the table.
filter_conditions	No	Array of strings	<p>Filtering criteria for the table data. The processing rule value is a SQL statement. The value contains a maximum of 512 characters.</p> <p>Minimum length: 0 Maximum length: 512</p>

Parameter	Mandatory	Type	Description
config_conditions	No	Array of strings	Configuration criteria in advanced settings for data filtering of the table. This parameter is mandatory when the table is used as an association table for query. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512
is_synchronized	No	Boolean	Whether synchronization has been performed.
columns	No	Map<String,ColumnObject>	Columns to be synchronized, mapped, filtered, or added. This parameter is mandatory when column filtering, column mapping, and additional columns are required. This parameter takes effect only in real-time synchronization tasks. This parameter is mandatory when all is set to false . For details, see Table 7-62 .

Table 7-62 Data structure description of field columns

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the column in real-time synchronization. Values: config : This parameter is mandatory only when the column is used as an association column in advanced settings for data filtering. If the column is a primary key column or index column required for optimizing the query, primary_key_for_data_filtering or index_for_data_filtering is mandatory. NOTE Whether to synchronize the column to the destination database depends on the filtered parameter, which is different from the database, schema, and table-level synchronization.
primary_key_for_data_filtering	No	String	Whether the column is a primary key column in advanced settings for data filtering. If the column is a primary key column, set this parameter to the column name. Otherwise, leave this parameter blank.
index_for_data_filtering	No	String	Whether the column is an index column required for optimizing the query. The index is added to the cached data. It does not affect the source table. If the column is an index column in advanced settings for data filtering, this parameter is mandatory. Otherwise, leave this parameter blank.

Parameter	Mandatory	Type	Description
name	No	String	Name of the column in the destination database (column name mapping). If the column is an additional column, the value must be the same as the column name in the table-level object.
type	No	String	Data type of the column. Column filtering: Enter the data type of the source column. Additional column adding: Enter the data type of the new column. The values and constraints vary depending on the operation type. Values: <ul style="list-style-type: none"> • Default: The value can be int, long, varchar(256), datetime, or timestamp. • create_time: The value can be long, datetime, or timestamp. • update_time: The value can be long, datetime, or timestamp. • Expression: The value can be varchar (256), and the column value must be concat(_current_database, '@', _current_table). • serverName@database@table: The value can be varchar(256).
primary_key_for_column_filtering	No	String	Whether the column is a primary key column in column mapping. If the column is a primary key column, set this parameter to PRI . Otherwise, leave this parameter blank.

Parameter	Mandatory	Type	Description
filtered	No	Boolean	Whether the column is filtered out. This parameter cannot be used together with the additional parameter. Values: <ul style="list-style-type: none"> • true: indicates that the column will be synchronized. • false: indicates that the column is filtered out and will not be synchronized.
additional	No	Boolean	Whether the column is an additional column. If the column is an additional column, the value of name must be the same as the column name in the table-level object and cannot be used together with the filtered parameter.
operation_type	No	String	Operation type. The new column is filled with a specific operation type. Values: <ul style="list-style-type: none"> • Default: "operation_type":"ADDITIONALCOLUMN,default_value" • create_time: "operation_type":"ADDITIONALCOLUMN,create_time" • update_time: "operation_type":"ADDITIONALCOLUMN,update_time" • Expression: "operation_type":"ADDITIONALCOLUMN,expression" • serverName@database@table: "operation_type":"ADDITIONALCOLUMN,server_database_table"

Parameter	Mandatory	Type	Description
value	No	String	Value of the additional column. Note: <ul style="list-style-type: none"> This parameter is mandatory only when operation type is set to Default or serverName@database@table. When operation type is set to Expression, this parameter has a fixed value of concat(_current_database, '@', _current_table).

Table 7-63 Data structure description of field **db_param**

Parameter	Mandatory	Type	Description
common	No	Array of objects	Common parameter. Only the values of destination database parameters whose comparison results are inconsistent can be changed. For details, see Table 7-64 .
performance	No	Array of objects	Performance parameter. If the comparison results are consistent, you can also change the values of destination database parameters. For details, see Table 7-64 .

Table 7-64 Data structure description of fields **common** and **performance**

Parameter	Mandatory	Type	Description
key	Yes	String	Database parameter name.
target_value	Yes	String	Parameter value of the destination database.

Table 7-65 Data structure description of field **tuning_params**

Parameter	Mandatory	Type	Description
full_sync	No	Map<String,String>	Names and values of full migration parameters.
incre_capture	Yes	Map<String,String>	Names and values of incremental capture parameters.
incre_apply	Yes	Map<String,String>	Names and values of incremental replay parameters.
incre_relay	No	Map<String,String>	Names and values of incremental log extraction parameters.
recovery	No	Boolean	Whether to restore to the default value.

Table 7-66 Data structure description of field **period_order**

Parameter	Mandatory	Type	Description
period_type	Yes	Integer	Subscription period type. Values: <ul style="list-style-type: none"> • 2: indicates that the service is subscribed by month. • 3: indicates that the service is subscribed by year. Default value: 3 Enumerated values: <ul style="list-style-type: none"> • 2 • 3
period_num	Yes	Integer	Number of subscription periods. This parameter depends on the value of period_type . For example: <ul style="list-style-type: none"> • When period_type is set to 2, the value 1 indicates one month. • When period_type is set to 3, the value 1 indicates one year.

Parameter	Mandatory	Type	Description
is_auto_renew	No	Integer	<p>Whether auto renewal is enabled. Values:</p> <ul style="list-style-type: none"> • 0: indicates that auto renewal is disabled. This is the default value. You need to pay manually. • 1: indicates that auto renewal is enabled. <p>Default value: 0</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • 0 • 1

Table 7-67 Data structure description of field **node_info**

Parameter	Mandatory	Type	Description
spec	Yes	Object	<p>Information body of DRS instance specifications.</p> <p>For details, see Table 7-68.</p>
vpc	No	Object	<p>Information body of DRS instance VPC. This parameter is mandatory for self-built databases.</p> <p>For details, see Table 7-69.</p>
base_info	No	Object	<p>Information body of DRS instance VPC. This parameter is mandatory for self-built databases.</p> <p>For details, see Table 7-70.</p>

Table 7-68 Data structure description of field **spec**

Parameter	Mandatory	Type	Description
node_type	Yes	String	Specification code. Values: <ul style="list-style-type: none"> • micro: minimum specifications. • small: small specifications. • medium: medium specifications. • high: large specifications. Enumerated values: <ul style="list-style-type: none"> • micro • small • medium • high

Table 7-69 Data structure description of field **vpc**

Parameter	Mandatory	Type	Description
vpc_id	Yes	String	ID of the VPC where the DRS instance is located.
subnet_id	Yes	String	ID of the subnet where the DRS instance is located.

Parameter	Mandatory	Type	Description
custom_node_ip	No	String	<p>IP address of the DRS instance to be created. Use commas (,) to separate multiple values. Only IPv4 addresses are supported. To obtain the IP address, perform the following steps:</p> <ul style="list-style-type: none"> Method 1: Log in to the VPC console and click the target subnet on the Subnets page. View the subnet CIDR block and select an IP address that is not in use. Method 2: Call the API for querying private IP addresses. For details, see Querying Private IP Addresses. Select a private IP address whose device_owner is left blank. Example: 192.168.0.10,192.168.0.11
security_group_id	No	String	ID of the security group where the DRS instance is located.

Table 7-70 Data structure description of field **base_info**

Parameter	Mandatory	Type	Description
instance_type	Yes	String	<p>DB instance type. The value can be:</p> <ul style="list-style-type: none"> single: single instance. ha: primary/standby instance. <p>Enumerated values:</p> <ul style="list-style-type: none"> single ha

Parameter	Mandatory	Type	Description
arch	Yes	String	CPU architecture. The value can be: <ul style="list-style-type: none"> • x86 • arm Enumerated values: <ul style="list-style-type: none"> • x86 • arm
availability_zone	Yes	String	AZ ID. If the task instance is not a single instance, you need to specify an AZ for each node of the instance and separate the AZs with commas (,). Example: <ul style="list-style-type: none"> • If instance_type is set to single, the value is cn-north-4a. • If instance_type is set to ha, the value is cn-north-4a,cn-north-4b.
status	No	String	Status.
role	No	String	Primary/Standby role of a task.

Response Parameters

Status code: 200

Table 7-71 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512
id	String	Task ID.
name	String	Task name.
status	String	Operation result.

Status code: 400

Table 7-72 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

- Updating object details about a task with a specified ID
<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r>

```
{
  "job" : {
    "type" : "db_object",
    "params" : {
      "db_object" : {
        "object_scope" : "table",
        "target_root_db" : {
          "db_name" : "mytest",
          "db_encoding" : "utf8"
        }
      },
      "object_info" : {
        "TEST1" : {
          "name" : "TEST1",
          "tables" : {
            "TBL_1" : {
              "name" : "TBL_1",
              "type" : "table",
              "all" : true,
              "is_synchronized" : false
            },
            "TBL_2" : {
              "name" : "TBL_2",
              "type" : "table",
              "all" : true,
              "is_synchronized" : false
            }
          }
        }
      },
      "TEST2" : {
        "name" : "TEST2",
        "all" : true,
        "tables" : {
          "WT_1" : {
            "name" : "WT_1",
            "type" : "table",
            "all" : true,
            "is_synchronized" : false
          },
          "WT_2" : {
            "name" : "WT_2",
            "type" : "table",
            "all" : true,

```



```
}  
  }  
}]  
}  
}
```

- Updating the number of days after which an abnormal task automatically stops

<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r>

```
{  
  "job": {  
    "type": "expired_days",  
    "params": {  
      "base_info": {  
        "expired_days": "14"  
      }  
    }  
  }  
}
```

- Updating the task description

<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r>

```
{  
  "job": {  
    "type": "description",  
    "params": {  
      "base_info": {  
        "description": "drs-test"  
      }  
    }  
  }  
}
```

- Setting the MySQL task synchronization policy

<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r>

```
{  
  "job": {  
    "type": "policy",  
    "params": {  
      "policy_config": {  
        "conflict_policy": "overwrite",  
        "filter_ddl_policy": "drop_database",  
        "index_trans": true,  
        "ddl_trans": true,  
        "dml_types": "i,u,d",  
        "data_sync_topology_type": "one2one",  
        "support_ddl_info": "CREATE_TABLE"  
      }  
    }  
  }  
}
```

Example Response

Status code: 200

OK

```
{}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10000010",
  "error_msg" : "Job does not exist, please check job ID."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.2.4 Deleting a Task with a Specified ID

Function

This API is used to delete a task with a specified ID.

Constraints

- This API supports only the synchronization scenarios from Oracle-> GaussDB distributed, from MySQL to Kafka, and from GaussDB(for MySQL) to Kafka.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

DELETE /v5/{project_id}/jobs/{job_id}

Table 7-73 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-74 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 400

Table 7-75 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Deleting a task with a specified ID

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/dc6016cf-f3b6-4c2d-b4d7-5084b0fjb20r
```

Example Response

Status code: 200

OK

```
{}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "DRS.10000010",  
  "error_msg" : "Job does not exist, please check job ID."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.2.5 Deleting Tasks in Batches

Function

This API is used to delete tasks with specified IDs in batches.

Constraints

- This API is available only for synchronization from MySQL to MySQL, migration from Redis to GeminiDB Redis, migration from cluster Redis to GeminiDB Redis, and synchronization from Oracle to GaussDB Distributed.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

```
DELETE /v5/{project_id}/jobs
```

Table 7-76 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 7-77 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Table 7-78 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of strings	Request body for deleting tasks in batches.

Response Parameters

Status code: 200

Table 7-79 Response body parameters

Parameter	Type	Description
jobs	Array of objects	Response body for deleting tasks in batches. For details, see Table 7-80 .

Table 7-80 Data structure description of field **jobs**

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512
id	String	Task ID.
name	String	Task name.
status	String	Deletion result.

Status code: 400

Table 7-81 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12

Parameter	Type	Description
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Deleting tasks with specified IDs in batches

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs
```

```
{
  "jobs": [ "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r", "dc6016cf-f3b6-4c2d-b4d7-5084b0fjb20r" ]
}
```

Example Response

Status code: 200

OK

```
{
  "jobs": [ {
    "id": "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r",
    "name": "DRS-1234",
    "status": "Success"
  }, {
    "id": "dc6016cf-f3b6-4c2d-b4d7-5084b0fjb20r",
    "name": "DRS-2345",
    "status": "Failed",
    "error_code": "DRS.10000010",
    "error_msg": "Job does not exist, please check job ID"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.10000010",
  "error_msg": "Job does not exist, please check job ID."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.2.6 Cloning a Task

Function

DRS allows you to clone the configuration of existing synchronization tasks.

Constraints

- Tasks in the **Creating**, **Creation failed**, **Configuring**, **Waiting to start**, **Starting**, or **Deleted** state cannot be cloned.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

POST /v5/{project_id}/jobs/clone

Table 7-82 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Request Parameters

Table 7-83 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-84 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Name of a clone task. The name must start with a letter and can include 4 to 50 characters. It can contain only letters, digits, hyphens (-), and underscores (_). The task name must be unique.
job_id	Yes	String	ID of the task to be cloned.
task_version	No	String	Task version number. The value is 2.0 for new UX tasks. By default, this parameter is left empty, indicating that an old task is cloned. Enumerated value: <ul style="list-style-type: none"> • 2.0

Response Parameters

Status code: 202

Table 7-85 Response body parameters

Parameter	Type	Description
id	String	Task ID.
name	String	Task name.
status	String	Task status.
is_clone_job	String	Indicates whether a task is a clone task.
create_time	String	Task creation time.

Status code: 400**Table 7-86** Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Cloning a MySQL synchronization task

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/clone
{
  "job_id": "23fcec7a-899f-40d0-8cd3-7fad453jb201",
  "name": "DRS-8733-copy",
  "task_version": "2.0"
}
```

Example Response

Status code: 202

Accepted

```
{
  "id": "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r",
  "name": "DRS-1234",
  "status": "CREATING",
  "is_clone_job": true,
  "create_time": "2022-11-07T16:15:18Z"
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "DRS.10000001",  
  "error_msg" : "Failed."  
}
```

Error Code

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

7.3 Management of Tasks Created Asynchronously in Batches

7.3.1 Asynchronously Creating Tasks in Batches

Function

This API is used to asynchronously create real-time migration, synchronization, or DR tasks in batches based on different request parameters.

Constraints

- This API is available only for synchronization from MySQL to MySQL, migration from Redis to GeminiDB Redis, migration from cluster Redis to GeminiDB Redis, and synchronization from Oracle to GaussDB Distributed.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

POST /v5/{project_id}/jobs/batch-async-create

Table 7-87 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 7-88 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-89 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	Request body for asynchronously creating tasks. For details, see Table 7-90 .

Table 7-90 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
base_info	Yes	Object	Basic information body for creating a task. For details, see Table 7-91 .

Parameter	Mandatory	Type	Description
source_endpoint	Yes	Array of objects	Database information body for creating a task. For details, see Table 7-93 .
target_endpoint	Yes	Array of objects	Database information body for creating a task. For details, see Table 7-93 .
alarm_notify	No	Object	Information body for setting task exception notification. If this parameter is enabled, the system sends a notification to a specified SMN topic when the task is abnormal. For details, see Table 7-100 .
speed_limit	No	Array of objects	Flow control information body. <ul style="list-style-type: none">• If you enable flow control, you can customize the maximum migration speed.• If you disable flow control, the migration speed is not limited and the outbound bandwidth of the source database is maximally used, which causes read consumption on the source database accordingly. For example, if the outbound bandwidth of the source database is 100 MB/s and 80% bandwidth is used, the I/O consumption on the source database is 80 MB/s. For details, see Table 7-101 .
user_migration	No	Object	User migration information body. For details, see Table 7-102 .
policy_config	Yes	Object	Policy information body. This parameter is used to configure migration and synchronization policies, including the conflict policy, DROP DATASE filtering, and object synchronization scope. For details, see Table 7-105 .

Parameter	Mandatory	Type	Description
db_object	Yes	Object	Database object information body. This parameter is used to select databases or tables to be migrated for migration and synchronization tasks. For details, see Table 7-106 .
db_param	No	Object	Database parameter information body. For details, see Table 7-112 .
tuning_parameters	No	Object	Advanced setting information body. For details, see Table 7-114 .
period_order	No	Object	Yearly/Monthly information body. For details, see Table 7-116 .
node_info	Yes	Object	Information body of the DRS instance. For details, see Table 7-117 .
public_ip_list	No	Array of objects	Information about a specified EIP. For details, see Table 7-121 .

Table 7-91 Data structure description of field **base_info**

Parameter	Mandatory	Type	Description
name	No	String	Task name. The task name can be 4 to 50 characters in length. It is case-insensitive and can contain only letters, digits, hyphens (-), and underscores (_). <ul style="list-style-type: none"> • Minimum length: 4 • Maximum length: 50 Minimum length: 4 Maximum length: 50

Parameter	Mandatory	Type	Description
job_type	No	String	<p>Task scenario. Values:</p> <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery. <p>Enumerated values:</p> <ul style="list-style-type: none"> • migration • sync • cloudDataGuard
multi_write	No	Boolean	<p>Whether the DR type is dual-active. Note:</p> <ul style="list-style-type: none"> • This parameter is mandatory when job_type is set to cloudDataGuard. If the DR type is dual-active, the value of multi_write is true. Otherwise, the value is false. • If job_type is set to other values, multi_write is optional.
engine_type	No	String	<p>Engine type. The value can be:</p> <ul style="list-style-type: none"> • oracle-to-gaussdbv5: Synchronization from Oracle to GaussDB distributed. • redis-to-gaussredis: Migration from Redis to GeminiDB Redis. • rediscluster-to-gaussredis: Migration from cluster Redis to GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> • oracle-to-gaussdbv5 • redis-to-gaussredis • rediscluster-to-gaussredis

Parameter	Mandatory	Type	Description
job_direction	No	String	<p>Migration direction. Values:</p> <ul style="list-style-type: none"> • up: to-the-cloud scenarios and DR scenarios where the current cloud is the standby. • down: out-of-cloud scenarios and DR scenarios where the current cloud is the active. • non-dbs: self-built databases. <p>Enumerated values:</p> <ul style="list-style-type: none"> • up • down • non-dbs
task_type	No	String	<p>Migration type. Values:</p> <ul style="list-style-type: none"> • FULL_TRANS: full migration. • FULL_INCR_TRANS: full +incremental migration. • INCR_TRANS: incremental migration. <p>Enumerated values:</p> <ul style="list-style-type: none"> • FULL_TRANS • FULL_INCR_TRANS • INCR_TRANS
net_type	No	String	<p>Network type. Values:</p> <ul style="list-style-type: none"> • eip: public network. • vpc: VPC network. The VPC network cannot be selected in DR scenarios. • vpn: VPN or Direct Connect. <p>Enumerated values:</p> <ul style="list-style-type: none"> • eip • vpc • vpn

Parameter	Mandatory	Type	Description
charging_mode	No	String	Billing mode. The pay-per-use billing is used by default. Values: <ul style="list-style-type: none"> • period: indicates the yearly/monthly billing. • on_demand: indicates the pay-per-use billing. Enumerated values: <ul style="list-style-type: none"> • period • on_demand
enterprise_project_id	No	String	Enterprise project ID. The default value is 0 , indicating the default enterprise project. Default value: 0
description	No	String	Task description. The task description can contain a maximum of 256 characters and cannot contain the following special characters: ! <>'&"\ Minimum length: 0 Maximum length: 256
start_time	No	String	Scheduled start time of a task.
expired_days	No	String	Number of days after which an abnormal task automatically stops. The unit is day. The value ranges from 14 to 100. If this parameter is not specified, the default value is 14 . Default value: 14
tags	No	Array of objects	Tag information. Up to 20 tags can be added. For details, see Table 7-92 .

Table 7-92 Data structure description of field **tags**

Parameter	Mandatory	Type	Description
key	No	String	Tag key. The value can contain a maximum of 36 characters, including letters, digits, underscores (_), and hyphens (-). Minimum length: 1 Maximum length: 36
value	No	String	Tag value. The value can contain a maximum of 43 characters, including letters, digits, underscores (_), and hyphens (-). Minimum length: 1 Maximum length: 43

Table 7-93 Data structure description of fields **source_endpoint** and **target_endpoint**

Parameter	Mandatory	Type	Description
db_type	Yes	String	Database type. The value can be: <ul style="list-style-type: none"> • oracle: Oracle. • gaussdbv5: GaussDB distributed. • redis: Redis. • rediscluster: Cluster Redis. • gaussredis: GeminiDB Redis. Enumerated values: <ul style="list-style-type: none"> • oracle • gaussdbv5 • redis • rediscluster • gaussredis

Parameter	Mandatory	Type	Description
endpoint_type	Yes	String	DB instance type. Values: <ul style="list-style-type: none"> ● offline: indicates an on-premises database. ● ecs: indicates a database built on Huawei Cloud ECSs. ● cloud: indicates a Huawei cloud database. Enumerated values: <ul style="list-style-type: none"> ● offline ● ecs ● cloud
endpoint_role	Yes	String	DB instance role. Values: <ul style="list-style-type: none"> ● so: indicates the source database. ● ta: indicates the destination database. Enumerated values: <ul style="list-style-type: none"> ● so ● ta
endpoint	Yes	Object	Basic information body of the database. For details, see Table 7-94 .
cloud	No	Object	Region and project where a DB instance is located. For details, see Table 7-95 .
vpc	No	Object	Information about the VPC, subnet, and security group where a DB instance resides. For details, see Table 7-96 .
config	No	Object	Basic information body of database settings. For details, see Table 7-97 .
ssl	No	Object	Information body of the database SSL certificate. For details, see Table 7-98 .
customized_dns	No	Object	Custom DNS server. For details, see Table 7-99 .

Table 7-94 Data structure description of fields **endpoint** and **source_sharding**

Parameter	Mandatory	Type	Description
id	No	String	Database information ID.

Parameter	Mandatory	Type	Description
endpoint_name	Yes	String	<p>Database scenario type. The value can be:</p> <ul style="list-style-type: none"> • oracle: indicates the on-premises Oracle database. • ecs_oracle: indicates the Oracle database built on Huawei Cloud ECSs. • cloud_gaussdbv5: indicates the Huawei Cloud distributed GaussDB database. • mysql: indicates the MySQL database built on other clouds or on-premises MySQL database. • ecs_mysql: indicates the MySQL database built on Huawei Cloud ECSs. • cloud_mysql: indicates the Huawei Cloud RDS for MySQL database. • redis: On-premises Redis database. • ecs_redis: Redis database built on Huawei Cloud ECSs. • rediscluster: On-premises cluster Redis database. • ecs_rediscluster: Cluster Redis database built on Huawei Cloud ECSs. • cloud_gaussdb_redis: Huawei Cloud GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> • oracle • ecs_oracle • cloud_gaussdbv5 • mysql • ecs_mysql • cloud_mysql • redis • ecs_redis • rediscluster

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none">• <code>ecs_rediscluster</code>• <code>cloud_gaussdb_redis</code>

Parameter	Mandatory	Type	Description
ip	No	String	<p>Database IP address.</p> <p>Constraints:</p> <ul style="list-style-type: none"> • If an on-premises MongoDB database is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. A maximum of three IP addresses or domain names can be entered. • If a DDS instance is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. • If the database is a cluster Redis database, enter the IP addresses and port numbers of all shards in the source cluster Redis database. Use colons (:) to separate a database IP address and port number. Use commas (,) to separate multiple values. You are advised to enter the IP address of the slave node of a cluster shard. Up to 32 IP addresses or domain names can be entered. Use commas (,) to separate multiple IP addresses or domain names. <p>Example:</p> <ul style="list-style-type: none"> • MongoDB: 192.168.0.10:8080,192.168.0.11:8080,192.168.0.12:8080 • DDS: 192.168.205.130:8635,192.168.250.64:8635 • Cluster Redis: 192.168.0.1:8080,192.168.0.2:8080

Parameter	Mandatory	Type	Description
db_port	No	String	Database port. The value is an integer ranging from 1 to 65535.
db_user	Yes	String	Database username.
db_password	Yes	String	Database password.
instance_id	No	String	ID of a Huawei Cloud DB instance.
instance_name	No	String	Name of a Huawei Cloud DB instance.
db_name	No	String	Database name. Example: <ul style="list-style-type: none"> oracle: serviceName.orcl.
source_sharding	No	Array of objects	Information about the physical source database. For details, see Table 7-94 .

Table 7-95 Data structure description of field **cloud**

Parameter	Mandatory	Type	Description
region	Yes	String	Region ID. This parameter is mandatory when DB Instance Type is set to ecs (database built on Huawei Cloud ECSs) or cloud (Huawei cloud database). For details, see Regions and Endpoints . Note: If there are subprojects in a region, the region ID is a combination of the regional project ID and subproject ID, which are combined using an underscore (_).
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
az_code	No	String	Name of the AZ where the database is located.

Table 7-96 Data structure description of field **vpc**

Parameter	Mandatory	Type	Description
vpc_id	Yes	String	ID of the VPC where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. Method 2: Call the API for querying VPCs. For details, see Querying VPCs .
subnet_id	Yes	String	ID of the subnet where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and click the target subnet on the Subnets page to view the network ID on the displayed page. Method 2: Call the API for querying subnets. For details, see Querying Subnets .
security_group_id	No	String	ID of the security group where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console. Choose Access Control > Security Groups in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page. Method 2: Call the API for querying security groups. For details, see Querying Security Groups .

Table 7-97 Data structure description of field **config**

Parameter	Mandatory	Type	Description
is_target_read_only	No	Boolean	Whether the destination DB instance is set to read-only. This parameter is available only when job_direction is set to up during MySQL migration and DR. In the DR scenario, this parameter is mandatory and set to true if the current cloud is the standby in single-active DR. If this parameter is not specified, the default value is true . Default value: true
node_num	No	Integer	Number of subtasks connected to the source cluster Redis instance for data migration from cluster Redis to GeminiDB Redis. The value ranges from 1 to 16 and cannot be greater than the number of shards in the source cluster Redis instance. Set this parameter based on the scale of the source cluster Redis instance. You are advised to set one subtask to connect to four shards in the source cluster Redis instance. Minimum value: 1 Maximum value: 16 Default value: 0

Table 7-98 Data structure description of field **ssl**

Parameter	Mandatory	Type	Description
ssl_link	No	Boolean	Whether SSL is enabled. If SSL is enabled, the value of this parameter is true .
ssl_cert_name	No	String	SSL certificate name.
ssl_cert_key	No	String	SSL certificate content, which is encrypted using Base64.

Parameter	Mandatory	Type	Description
ssl_cert_check_sum	No	String	The checksum value of the SSL certificate, which is used for backend verification. This parameter is mandatory for secure connection to the source database.
ssl_cert_password	No	String	SSL certificate password. This parameter is mandatory if the certificate file name extension is .p12.

Table 7-99 Data structure description of field **customized_dns**

Parameter	Mandatory	Type	Description
is_set_dns	Yes	Boolean	Specifies whether to set your own DNS server.
set_dns_action	Yes	String	Behavior of setting your own DNS server. <ul style="list-style-type: none"> • add: Add a customized DNS server IP address. • keep: Retain the DNS server IP address. • update: Update the customized DNS server IP address. (The update takes effect when the DNS server IP address changes.) • recover: Restore the default DNS server IP address. (Restoration may cause domain name resolution failures. Exercise caution when performing this operation.) Enumerated values: <ul style="list-style-type: none"> • add • keep • update • recover
dns_ip	Yes	String	DNS server IP address. Minimum length: 0 Maximum length: 15

Table 7-100 Data structure description of field **alarm_notify**

Parameter	Mandatory	Type	Description
alarm_to_user	Yes	Boolean	Whether to notify users of alarms. Default value: false
topic_urn	No	String	SMN topic URN.
delay_time	No	Long	Delay threshold, in seconds. Values: <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0 NOTE <ol style="list-style-type: none"> 1. A synchronization delay indicates a time difference (in seconds) of synchronization between the source and destination database. 2. If the delay exceeds a specified value and lasts for 6 minutes, DRS will notify specified recipients. (In the early stages of an incremental migration, there is more delay because more data is waiting to be synchronized. In this situation, no notifications will be sent.) 3. This option is available only for full+incremental tasks.
rpo_delay	No	Long	RPO delay threshold, in seconds. Values: <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0 NOTE <p>If the RPO delay between the service database and the DRS instance exceeds a specified value and lasts for 6 minutes, DRS will notify specified recipients. (In the early stages of an incremental DR, there is more delay because more data is waiting to be synchronized. In this situation, no notifications will be sent.)</p>

Parameter	Mandatory	Type	Description
rto_delay	No	Long	RTO delay threshold, in seconds. Values: <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0 NOTE If the RTO delay between the DRS instance and the DR database exceeds a specified value and lasts for 6 minutes, DRS will notify specified recipients.

Table 7-101 Data structure description of field **speed_limit**

Parameter	Mandatory	Type	Description
begin	Yes	String	Start time (UTC) of flow control. The start time is an integer in hh:mm format and the minutes part is ignored. hh indicates the hour, for example, 01:00.
end	Yes	String	End time (UTC) in the format of hh:mm, for example, 15:59. The value must end with 59.
speed	Yes	String	Speed. The value ranges from 1 to 9,999, in MB/s.

Table 7-102 Data structure description of field **user_migration**

Parameter	Mandatory	Type	Description
is_migrate_user	Yes	Boolean	Whether to migrate users.

Parameter	Mandatory	Type	Description
is_set_password	Yes	Boolean	Whether to reset a unified password. Values: <ul style="list-style-type: none"> • true: Reset a unified password. • false: Do not reset a unified password. The following scenarios are supported: <ul style="list-style-type: none"> • Real-time migration: MySQL migration.
password	No	String	Unified password. This parameter is mandatory when is_set_password is set to true . The password cannot be empty.
user_list	No	Array of objects	User list in the migration objects. The following scenarios are supported: <ul style="list-style-type: none"> • Real-time migration: MySQL-to-MySQL migration and MongoDB-to-DDS migration. For details, see Table 7-103 .
role_list	No	Array of objects	User role in the migration objects. The following scenarios are supported: <ul style="list-style-type: none"> • Real-time migration: MongoDB-to-DDS migration. For details, see Table 7-104 .

Table 7-103 Data structure description of field **user_list**

Parameter	Mandatory	Type	Description
id	Yes	String	User ID.
account	Yes	String	User.
is_set_password	No	Boolean	Whether to reset the user password. The following scenarios are supported: <ul style="list-style-type: none"> • Real-time migration: MySQL-to-MySQL migration.

Parameter	Mandatory	Type	Description
password	No	String	New password. This parameter is mandatory when is_set_password is set to true . The password cannot be empty.

Table 7-104 Data structure description of field **role_list**

Parameter	Mandatory	Type	Description
role	Yes	String	Role.

Table 7-105 Data structure description of field **policy_config**

Parameter	Mandatory	Type	Description
filter_ddl_policy	No	String	DDL filtering policy. Values: <ul style="list-style-type: none"> drop_database Scenarios: <ul style="list-style-type: none"> Real-time migration: For MySQL migration, this parameter can be set to "", indicating that DROP DATABASE is not filtered. Real-time synchronization: For MySQL synchronization, this parameter can only be set to drop_database. Enumerated values: <ul style="list-style-type: none"> drop_database

Parameter	Mandatory	Type	Description
conflict_policy	No	String	<p>Incremental conflict policy. The conflict policy refers to the conflict handling policy during incremental synchronization. By default, conflicts in the full synchronization phase are ignored. Values:</p> <ul style="list-style-type: none">● ignore: Ignore the conflict. The system will ignore the conflicting data and continue the subsequent synchronization process.● stop: Report an error. The synchronization task will be stopped and fail. You can view the details in synchronization logs.● overwrite: Overwrite the existing data with the synchronized data. Conflicting data will be overwritten. <p>Scenarios:</p> <ul style="list-style-type: none">● Real-time migration: Not supported.● Real-time synchronization: Supported. <p>Enumerated values:</p> <ul style="list-style-type: none">● ignore● stop● overwrite

Parameter	Mandatory	Type	Description
index_trans	No	Boolean	<p>Object synchronization scope: indicates whether to synchronize normal indexes. By default, DRS synchronizes the primary key or unique index. A normal index refers to an index other than the primary key or unique index. Values:</p> <ul style="list-style-type: none"> • true: All indexes will be synchronized. • false: Only primary key or unique indexes are synchronized. <p>Default value: true</p>
ddl_trans	No	Boolean	<p>Object synchronization scope: indicates whether to synchronize DDLs in the incremental phase. Values:</p> <ul style="list-style-type: none"> • true: DDLs are synchronized in the incremental phase. • false: DDLs are not synchronized in the incremental phase. <p>Default value: true</p>
data_sync_topology_type	No	String	<p>Data synchronization topology. Data synchronization supports multiple synchronization topologies. You can plan your synchronization instances based on service requirements. Values:</p> <ul style="list-style-type: none"> • one2one: one-to-one. • one2many: one-to-many. • many2one: many-to-one. <p>Default value: one2one</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • one2one • one2many • many2one

Parameter	Mandatory	Type	Description
support_ddl_info	No	String	<p>DDLs to be synchronized.</p> <p>Values:</p> <ul style="list-style-type: none"> • CREATE_TABLE: Create a table. • ADD_COLUMN: Add a column. • MODIFY_COLUMN: Modify column attribute. • CHANGE_COLUMN: Change column attribute. • DROP_INDEX: Delete an index. • ADD_INDEX: Add an index. • CREATE_INDEX: Create an index. • RENAME_INDEX: Rename an index. <p>Note:</p> <ul style="list-style-type: none"> • In one-to-one and one-to-many scenarios, if the DDL usage of the source and destination databases must be consistent, high-risk DDLs must be synchronized. • In one-to-one and one-to-many scenarios, if you do not want a high-risk DDL to be performed in the destination, deselect the high-risk DDL to protect destination data. However, filtering DDL may cause synchronization to fail, for example, column deletion. • In many-to-one data synchronization tasks, it is recommended that only the ADD COLUMN operation is synchronized, or tasks may fail or data may be inconsistent due to changes in destination tables. Typical failure scenarios are as follows:

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> - Synchronizing the TRUNCATE operation clears all destination data. - Synchronizing the CREATE INDEX operation locks the destination table. - Synchronizing the RENAME operation causes other task failure because the destination table cannot be found. - Synchronizing the MODIFY COLUMN operation causes other task failure due to incompatible data types. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CREATE_TABLE ● ADD_COLUMN ● MODIFY_COLUMN ● CHANGE_COLUMN ● DROP_INDEX ● ADD_INDEX ● CREATE_INDEX ● RENAME_INDEX
sync_type_policy	No	String	<p>Synchronization object type.</p> <p>Values:</p> <ul style="list-style-type: none"> ● supportAllType: All types. ● tableData: Data. ● tableStructure: Table structure. ● constraintData: Index. <p>NOTE Except supportAllType, other types can be specified together, for example, tableData,tableStructure.</p>
increment_read_mode	No	String	<p>Incremental log reading mode for synchronization from Oracle to GaussDB: logminer or xstream.</p>

Parameter	Mandatory	Type	Description
dml_types	No	String	DML synchronization type. The value can be: <ul style="list-style-type: none"> • i: INSERT • u: UPDATE • d: DELETE

Table 7-106 Data structure description of field **db_object**

Parameter	Mandatory	Type	Description
object_scope	Yes	String	Migration or synchronization object scope. Values: <ul style="list-style-type: none"> • all: Migrate or synchronize all objects. • database: database-level migration or synchronization. • table: table-level migration or synchronization. Enumerated values: <ul style="list-style-type: none"> • all • database • table
target_root_db	No	Object	Destination database for database object migration or synchronization. This parameter is mandatory for database synchronization from Layer 2 to Layer 3. For details, see Table 7-107 .
object_info	No	Map<String, DatabaseObject>	Object information for migration or synchronization. If object_scope is set to all , leave this parameter blank. If object_scope is set to database or table , this parameter is mandatory. For details, see Table 7-108 .

Table 7-107 Data structure description of field **target_root_db**

Parameter	Mandatory	Type	Description
db_name	No	String	Database name.
db_encoding	No	String	Encoding format. The default value is UTF-8 .

Table 7-108 Data structure description of field **object_info**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the database in real-time synchronization. Values: config : This parameter is mandatory only when the database is used as an association database in advanced settings for data filtering. In this case, the database and its schemas and tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in schemas and tables . NOTE To synchronize the database-level object, set sync_type to config for the lower-level object. Enumerated values: • config
name	No	String	Name of the database in the destination database (database name mapping).

Parameter	Mandatory	Type	Description
all	No	Boolean	<p>Whether to migrate or synchronize the entire database.</p> <p>NOTE</p> <ul style="list-style-type: none"> • If data filtering, column filtering, and column mapping are required for schemas, tables, and columns in the database, set this parameter to false. Otherwise, set this parameter to true. • If additional columns are required for tables in the database, set this parameter to true and enter additional column information in columns of table-level objects. • If the table columns in the database are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
schemas	No	Map<String, SchemaObject >	<p>Schema to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-109.</p>
tables	No	Map<String, TableObject >	<p>Table to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-110.</p>
total_table_number	No	Integer	<p>Number of tables in the database. If the number of tables exceeds the threshold, this parameter is not displayed.</p>
is_synchronized	No	Boolean	<p>Whether synchronization has been performed.</p>

Table 7-109 Data structure description of field **schemas**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the schema in real-time synchronization. Values: config : This parameter is mandatory only when the schema is used as an association schema in advanced settings for data filtering. In this case, the schema and its tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in tables . NOTE To synchronize the schema-level object, set sync_type to config for the lower-level object.
name	No	String	Name of the schema in the destination database (schema name mapping).
all	No	Boolean	Whether to migrate or synchronize the entire schema. NOTE <ul style="list-style-type: none"> If data filtering, column filtering, and column mapping are required for tables and columns in the schema, set this parameter to false. Otherwise, set this parameter to true. If additional columns are required for tables in the schema, set this parameter to true and enter additional column information in columns of table-level objects. If the table columns in the schema are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.

Parameter	Mandatory	Type	Description
tables	No	Map<String, TableObject >	Table to be migrated or synchronized. This parameter is mandatory when all is set to false . For details, see Table 7-110 .

Table 7-110 Data structure description of field **tables**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the table in real-time synchronization. Values: config : This parameter is mandatory only when the table is used as an association table in advanced settings for data filtering. In this case, the table and its columns will not be synchronized to the destination database. The name , all , filtered , and filter_conditions parameters do not take effect. Enter the associated objects in columns and the configuration criteria in advanced settings for data filtering in config_conditions . NOTE To synchronize the table-level object, set sync_type to config for the lower-level object.
type	No	String	Object type. Values: <ul style="list-style-type: none"> ● table: indicates a table. ● view: indicates a view. ● procedure: indicates a stored procedure. Enumerated values: <ul style="list-style-type: none"> ● table ● view ● procedure
name	No	String	Name of the table in the destination database (table name mapping).

Parameter	Mandatory	Type	Description
all	No	Boolean	<p>Whether to migrate or synchronize the entire table.</p> <p>NOTE</p> <ul style="list-style-type: none"> • If column filtering and column mapping are not required for the table, set this parameter to true. Otherwise, set this parameter to false. • If additional columns are required for the table, set this parameter to true and enter additional column information in columns. • If the table columns are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
db_alias_name	No	String	Mapping of database names at the table level in the one-to-many scenario.
schema_alias_name	No	String	Mapping of schema names at the table level in the one-to-many scenario.
filtered	No	Boolean	Whether to filter data in the table.
filter_conditions	No	Array of strings	<p>Filtering criteria for the table data. The processing rule value is a SQL statement. The value contains a maximum of 512 characters.</p> <p>Minimum length: 0 Maximum length: 512</p>

Parameter	Mandatory	Type	Description
config_conditions	No	Array of strings	Configuration criteria in advanced settings for data filtering of the table. This parameter is mandatory when the table is used as an association table for query. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512
is_synchronized	No	Boolean	Whether synchronization has been performed.
columns	No	Map<String,ColumnObject>	Columns to be synchronized, mapped, filtered, or added. This parameter is mandatory when column filtering, column mapping, and additional columns are required. This parameter takes effect only in real-time synchronization tasks. This parameter is mandatory when all is set to false . For details, see Table 7-111 .

Table 7-111 Data structure description of field columns

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the column in real-time synchronization. Values: config : This parameter is mandatory only when the column is used as an association column in advanced settings for data filtering. If the column is a primary key column or index column required for optimizing the query, primary_key_for_data_filtering or index_for_data_filtering is mandatory. NOTE Whether to synchronize the column to the destination database depends on the filtered parameter, which is different from the database, schema, and table-level synchronization.
primary_key_for_data_filtering	No	String	Whether the column is a primary key column in advanced settings for data filtering. If the column is a primary key column, set this parameter to the column name. Otherwise, leave this parameter blank.
index_for_data_filtering	No	String	Whether the column is an index column required for optimizing the query. The index is added to the cached data. It does not affect the source table. If the column is an index column in advanced settings for data filtering, this parameter is mandatory. Otherwise, leave this parameter blank.

Parameter	Mandatory	Type	Description
name	No	String	Name of the column in the destination database (column name mapping). If the column is an additional column, the value must be the same as the column name in the table-level object.
type	No	String	Data type of the column. Column filtering: Enter the data type of the source column. Additional column adding: Enter the data type of the new column. The values and constraints vary depending on the operation type. Values: <ul style="list-style-type: none"> • Default: The value can be int, long, varchar(256), datetime, or timestamp. • create_time: The value can be long, datetime, or timestamp. • update_time: The value can be long, datetime, or timestamp. • Expression: The value can be varchar (256), and the column value must be concat(_current_database, '@', _current_table). • serverName@database@table: The value can be varchar(256).
primary_key_for_column_filtering	No	String	Whether the column is a primary key column in column mapping. If the column is a primary key column, set this parameter to PRI . Otherwise, leave this parameter blank.

Parameter	Mandatory	Type	Description
filtered	No	Boolean	Whether the column is filtered out. This parameter cannot be used together with the additional parameter. Values: <ul style="list-style-type: none"> • true: indicates that the column will be synchronized. • false: indicates that the column is filtered out and will not be synchronized.
additional	No	Boolean	Whether the column is an additional column. If the column is an additional column, the value of name must be the same as the column name in the table-level object and cannot be used together with the filtered parameter.
operation_type	No	String	Operation type. The new column is filled with a specific operation type. Values: <ul style="list-style-type: none"> • Default: "operation_type":"ADDITIONALCOLUMN,default_value" • create_time: "operation_type":"ADDITIONALCOLUMN,create_time" • update_time: "operation_type":"ADDITIONALCOLUMN,update_time" • Expression: "operation_type":"ADDITIONALCOLUMN,expression" • serverName@database@table: "operation_type":"ADDITIONALCOLUMN,server_database_table"

Parameter	Mandatory	Type	Description
value	No	String	Value of the additional column. Note: <ul style="list-style-type: none"> This parameter is mandatory only when operation type is set to Default or serverName@database@table. When operation type is set to Expression, this parameter has a fixed value of concat(_current_database, '@', _current_table).

Table 7-112 Data structure description of field **db_param**

Parameter	Mandatory	Type	Description
common	No	Array of objects	Common parameter. Only the values of destination database parameters whose comparison results are inconsistent can be changed. For details, see Table 7-113 .
performance	No	Array of objects	Performance parameter. If the comparison results are consistent, you can also change the values of destination database parameters. For details, see Table 7-113 .

Table 7-113 Data structure description of fields **common** and **performance**

Parameter	Mandatory	Type	Description
key	Yes	String	Database parameter name.
target_value	Yes	String	Parameter value of the destination database.

Table 7-114 Data structure description of field **tuning_params**

Parameter	Mandatory	Type	Description
full_sync	Yes	Array of objects	Full migration tuning parameters. For details, see Table 7-115 .
incr_capture	Yes	Array of objects	Incremental capture tuning parameters. For details, see Table 7-115 .
incr_apply	Yes	Array of objects	Incremental replay tuning parameters. For details, see Table 7-115 .
incr_relay	Yes	Array of objects	Incremental log extraction tuning parameters. For details, see Table 7-115 .

Table 7-115 Data structure description of fields **full_sync**, **incr_capture**, **incr_apply**, and **incr_relay**

Parameter	Mandatory	Type	Description
param_name	Yes	String	Parameter name.
param_value	Yes	String	Parameter value.
availability	Yes	Boolean	Available or not.

Table 7-116 Data structure description of field **period_order**

Parameter	Mandatory	Type	Description
period_type	Yes	Integer	Subscription period type. Values: <ul style="list-style-type: none"> • 2: indicates that the service is subscribed by month. • 3: indicates that the service is subscribed by year. Default value: 3 Enumerated values: <ul style="list-style-type: none"> • 2 • 3

Parameter	Mandatory	Type	Description
period_num	Yes	Integer	Number of subscription periods. This parameter depends on the value of period_type . For example: <ul style="list-style-type: none"> When period_type is set to 2, the value 1 indicates one month. When period_type is set to 3, the value 1 indicates one year.
is_auto_renew	No	Integer	Whether auto renewal is enabled. Values: <ul style="list-style-type: none"> 0: indicates that auto renewal is disabled. This is the default value. You need to pay manually. 1: indicates that auto renewal is enabled. Default value: 0 Enumerated values: <ul style="list-style-type: none"> 0 1

Table 7-117 Data structure description of field **node_info**

Parameter	Mandatory	Type	Description
spec	Yes	Object	Information body of DRS instance specifications. For details, see Table 7-118 .
vpc	No	Object	Information body of DRS instance VPC. This parameter is mandatory for self-built databases. For details, see Table 7-119 .
base_info	No	Object	Information body of DRS instance VPC. This parameter is mandatory for self-built databases. For details, see Table 7-120 .

Table 7-118 Data structure description of field **spec**

Parameter	Mandatory	Type	Description
node_type	Yes	String	Specification code. Values: <ul style="list-style-type: none">• micro: minimum specifications.• small: small specifications.• medium: medium specifications.• high: large specifications. Enumerated values: <ul style="list-style-type: none">• micro• small• medium• high

Table 7-119 Data structure description of field **vpc**

Parameter	Mandatory	Type	Description
vpc_id	Yes	String	ID of the VPC where the DRS instance is located.
subnet_id	Yes	String	ID of the subnet where the DRS instance is located.

Parameter	Mandatory	Type	Description
custom_node_ip	No	String	<p>IP address of the DRS instance to be created. Use commas (,) to separate multiple values. Only IPv4 addresses are supported. To obtain the IP address, perform the following steps:</p> <ul style="list-style-type: none"> Method 1: Log in to the VPC console and click the target subnet on the Subnets page. View the subnet CIDR block and select an IP address that is not in use. Method 2: Call the API for querying private IP addresses. For details, see "Querying Private IP Addresses". Select a private IP address whose device_owner is left blank. Example: 192.168.0.10,192.168.0.11
security_group_id	No	String	ID of the security group where the DRS instance is located.

Table 7-120 Data structure description of field **base_info**

Parameter	Mandatory	Type	Description
instance_type	Yes	String	<p>DB instance type. The value can be:</p> <ul style="list-style-type: none"> single: single instance. ha: primary/standby instance. <p>Enumerated values:</p> <ul style="list-style-type: none"> single ha

Parameter	Mandatory	Type	Description
arch	Yes	String	CPU architecture. The value can be: <ul style="list-style-type: none"> • x86 • arm Enumerated values: <ul style="list-style-type: none"> • x86 • arm
availability_zone	Yes	String	AZ ID. If the task instance is not a single instance, you need to specify an AZ for each node of the instance and separate the AZs with commas (.). Example: <ul style="list-style-type: none"> • If instance_type is set to single, the value is cn-north-4a. • If instance_type is set to ha, the value is cn-north-4a,cn-north-4b.
status	No	String	Status.
role	No	String	Primary/Standby role of a task.

Table 7-121 Data structure description of field **public_ip_list**

Parameter	Mandatory	Type	Description
id	Yes	String	ID of a specified EIP.
public_ip	Yes	String	EIP.
type	Yes	String	Type of a task with an EIP bound. <ul style="list-style-type: none"> • In a primary/standby task, master indicates the primary task, and slave indicates the standby task. • In other cases, the value is fixed to master. Enumerated values: <ul style="list-style-type: none"> • master • slave

Response Parameters

Status code: 202

Table 7-122 Response body parameters

Parameter	Type	Description
job	Object	Response body for asynchronously creating tasks in batches. For details, see Table 7-123 .

Table 7-123 Data structure description of field **job**

Parameter	Type	Description
async_job_id	String	ID of the tasks created asynchronously in batches.

Status code: 400

Table 7-124 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

- Asynchronously creating pay-per-use synchronization tasks from Oracle to GaussDB distributed, in which **task_type** is set to **FULL_INCR_TRANS** and **net_type** is set to **eip**

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-async-create
```

```
{
  "jobs": [ {
    "base_info": {
      "name": "DRS-1234",
      "job_type": "sync",
      "engine_type": "oracle-to-gaussdbv5",
      "job_direction": "up",
      "task_type": "FULL_INCR_TRANS",
      "net_type": "eip",
      "charging_mode": "on_demand",
```

```
"enterprise_project_id" : "0",
"description" : "",
"expired_days" : "14",
"tags" : [ {
  "key" : "test",
  "value" : "test"
} ]
},
"source_endpoint" : [ {
  "db_type" : "oracle",
  "endpoint_type" : "offline",
  "endpoint_role" : "so",
  "endpoint" : {
    "endpoint_name" : "oracle",
    "ip" : "10.154.217.239",
    "db_port" : "1521",
    "db_user" : "ORACLE_USER",
    "db_name" : "serviceName.orcl",
    "db_password" : "*****"
  },
  "ssl" : {
    "ssl_link" : false
  }
} ],
"target_endpoint" : [ {
  "db_type" : "gaussdbv5",
  "endpoint_type" : "cloud",
  "endpoint_role" : "ta",
  "endpoint" : {
    "endpoint_name" : "cloud_gaussdbv5",
    "instance_id" : "c2c7579bc09c490b9d8009db715aeb0ain14",
    "db_user" : "root",
    "db_password" : "*****"
  },
  "cloud" : {
    "region" : "cn-north-4",
    "project_id" : "9dc8c0f3f74c4dbb23c29cf0318ee561",
    "az_code" : "cn-north-4a,cn-north-4g,cn-north-4c"
  },
  "vpc" : {
    "vpc_id" : "2cb5d364-ae63-4fbb-85b7-7d59f4a88f8f",
    "subnet_id" : "2cb54324-ae63-4fbb-85b7-7d59f4a88f8f",
    "security_group_id" : "039a3s89-665a-43e2-9b4f-bda7d9ee148d"
  }
} ],
"alarm_notify" : {
  "alarm_to_user" : true,
  "topic_urn" : "urn:smn:cn-north-4:f2c2468c3ee7410c862a461ca073d2f2:test",
  "delay_time" : 60
},
"speed_limit" : [ {
  "begin" : "16:00",
  "end" : "15:59",
  "speed" : "10"
} ],
"policy_config" : {
  "ddl_trans" : false
},
"db_object" : {
  "object_scope" : "table",
  "target_root_db" : {
    "db_name" : "target_db_name",
    "db_encoding" : "utf8"
  },
  "object_info" : {
    "source_db1" : {
      "name" : "source_db1",
      "all" : false,
      "tables" : {
```

```

    "source_tb1" : {
      "type" : "table",
      "name" : "source_tb1",
      "all" : true
    },
    "source_tb2" : {
      "type" : "table",
      "name" : "source_tb2",
      "all" : true
    }
  }
}
}
}
},
"node_info" : {
  "spec" : {
    "node_type" : "medium"
  }
}
}]
}

```

- Asynchronously creating pay-per-use synchronization tasks in batches from Oracle to GaussDB Distributed and specifying EIPs

<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-async-create>

```

{
  "jobs" : [ {
    "base_info" : {
      "name" : "DRS-1234",
      "job_type" : "sync",
      "engine_type" : "oracle-to-gaussdbv5",
      "job_direction" : "up",
      "task_type" : "FULL_INCR_TRANS",
      "net_type" : "eip",
      "charging_mode" : "on_demand",
      "enterprise_project_id" : "0",
      "description" : "",
      "expired_days" : "14",
      "tags" : [ {
        "key" : "test",
        "value" : "test"
      } ]
    },
    "source_endpoint" : [ {
      "db_type" : "oracle",
      "endpoint_type" : "offline",
      "endpoint_role" : "so",
      "endpoint" : {
        "endpoint_name" : "oracle",
        "ip" : "*****",
        "db_port" : "1521",
        "db_user" : "ORACLE_USER",
        "db_name" : "serviceName.orcl",
        "db_password" : "*****"
      },
      "ssl" : {
        "ssl_link" : false
      }
    },
    "target_endpoint" : [ {
      "db_type" : "gaussdbv5",
      "endpoint_type" : "cloud",
      "endpoint_role" : "ta",
      "endpoint" : {
        "endpoint_name" : "cloud_gaussdbv5",
        "instance_id" : "c2c7579bc09c490b9d8009db715aeb0ain14",
        "db_user" : "root",
        "db_password" : "*****"
      }
    }
  ]
}

```

```
},
"cloud" : {
  "region" : "cn-north-4",
  "project_id" : "9dc8c0f3f74c4dbb23c29cf0318ee561",
  "az_code" : "cn-north-4a,cn-north-4g,cn-north-4c"
},
"vpc" : {
  "vpc_id" : "2cb5d364-ae63-4fbb-85b7-7d59f4a88f8f",
  "subnet_id" : "2cb54324-ae63-4fbb-85b7-7d59f4a88f8f",
  "security_group_id" : "039a3s89-665a-43e2-9b4f-bda7d9ee148d"
}
}],
"alarm_notify" : {
  "alarm_to_user" : true,
  "topic_urn" : "urn:smn:cn-north-4:f2c2468c3ee7410c862a461ca073d2f2:test",
  "delay_time" : 60
},
"speed_limit" : [ {
  "begin" : "16:00",
  "end" : "15:59",
  "speed" : "10"
} ],
"policy_config" : {
  "ddl_trans" : false
},
"db_object" : {
  "object_scope" : "table",
  "target_root_db" : {
    "db_name" : "target_db_name",
    "db_encoding" : "utf8"
  },
  "object_info" : {
    "source_db1" : {
      "name" : "source_db1",
      "all" : false,
      "tables" : {
        "source_tb1" : {
          "type" : "table",
          "name" : "source_tb1",
          "all" : true
        },
        "source_tb2" : {
          "type" : "table",
          "name" : "source_tb2",
          "all" : true
        }
      }
    }
  }
},
"public_ip_list" : [ {
  "id" : "018d9e56-26d5-455a-97dc-e6f5f44a2cbd",
  "public_ip" : "*****",
  "type" : "master"
} ],
"node_info" : {
  "spec" : {
    "node_type" : "medium"
  }
}
}
}]
}
```

Example Response

Status code: 202

Accepted

```
{  
  "job": {  
    "async_job_id": "bd4193aa-072d-4ce6-beec-adffc7252341"  
  }  
}
```

Status code: 400

Bad Request

```
{  
  "error_code": "DRS.10000001",  
  "error_msg": "Failed."  
}
```

Status Code

Status Code	Description
202	Accepted
400	Bad Request

Error Code

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

7.3.2 Submitting Tasks Created Asynchronously in Batches

Function

This API is used to submit the tasks created asynchronously in batches. After tasks are asynchronously created in batches or parameters are updated, the system automatically verifies the parameters. After the parameters of all tasks are verified and no error is reported, you can call this API to create DRS instances.

Constraints

- This API is available only for synchronization from MySQL to MySQL, migration from Redis to GeminiDB Redis, migration from cluster Redis to GeminiDB Redis, and synchronization from Oracle to GaussDB Distributed.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

POST /v5/{project_id}/batch-async-jobs/{async_job_id}/commit

Table 7-125 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
async_job_id	Yes	String	ID of the tasks created asynchronously in batches, which is returned by the API for asynchronously creating tasks in batches.

Request Parameters

Table 7-126 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Response Parameters

Status code: 200

Table 7-127 Response body parameters

Parameter	Type	Description
job	Object	Response body for submitting the tasks created asynchronously in batches with a specified ID. For details, see Table 7-128 .

Table 7-128 Data structure description of field **job**

Parameter	Type	Description
async_job_id	String	ID of the tasks created asynchronously in batches.
status	String	Status of the tasks created asynchronously in batches.
msg	String	Result of submitting the tasks created asynchronously in batches with a specified ID.

Status code: 400

Table 7-129 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Submitting the tasks created asynchronously in batches

`https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/batch-async-jobs/bd4193aa-072d-4ce6-beec-adffc7252341/commit`

Example Response

Status code: 200

OK

```
{
  "job": {
    "async_job_id": "ac64275d-ae2a-4597-9bb5-a021af3f33e9"
  }
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.10000001",
  "error_msg": "Failed."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.3.3 Querying the List of Tasks Created Asynchronously in Batches

Function

This API is used to query the list of tasks created asynchronously in batches.

Constraints

- This API is available only for synchronization from MySQL to MySQL, migration from Redis to GeminiDB Redis, migration from cluster Redis to GeminiDB Redis, and synchronization from Oracle to GaussDB Distributed.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/batch-async-jobs

Table 7-130 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .

Table 7-131 Query parameters

Parameter	Mandatory	Type	Description
async_job_id	No	String	ID of the tasks created asynchronously in batches.
status	No	String	Status of the tasks created asynchronously in batches.
domain_name	No	String	Tenant name of the tasks created asynchronously in batches.
user_name	No	String	Username of the tasks created asynchronously in batches.
offset	No	Integer	Offset. The records after this offset will be queried.
limit	No	Integer	Maximum number of records that can be returned.
sort_key	No	String	The keyword based on which the returned results are sorted. The default value is create_time .
sort_dir	No	String	Result sorting order. The value can be desc (descending order) or asc (ascending order). The default value is desc .

Request Parameters

Table 7-132 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-133 Response body parameters

Parameter	Type	Description
total_count	Integer	Total number of tasks in the list, which is irrelevant to pagination.
jobs	Array of objects	Response body of all tasks created asynchronously in batches. For details, see Table 7-134 .

Table 7-134 Data structure description of field **jobs**

Parameter	Type	Description
async_job_id	String	ID of the tasks created asynchronously in batches.
status	String	Status of the tasks created asynchronously in batches. Values: <ul style="list-style-type: none"> • ASYNC_JOB_VALIDATING: The parameters of the tasks created asynchronously in batches are being verified. • ASYNC_JOB_VALIDATE_FAILED: The parameters of the tasks created asynchronously in batches fail to be verified. • AUTO_PARAM_VALIDATE_SUCCESS: The parameters of the tasks created asynchronously in batches are successfully verified. • COMMIT_SUCCESS: The tasks created asynchronously in batches are successfully submitted. Enumerated values: <ul style="list-style-type: none"> • ASYNC_JOB_VALIDATING • ASYNC_JOB_VALIDATE_FAILED • AUTO_PARAM_VALIDATE_SUCCESS • COMMIT_SUCCESS
domain_name	String	Tenant name of the tasks created asynchronously in batches.
user_name	String	Username of the tasks created asynchronously in batches.
create_time	String	Time when the tasks are asynchronously created in batches.

Status code: 400

Table 7-135 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12

Parameter	Type	Description
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying the list of tasks created asynchronously in batches

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/batch-async-jobs?
async_job_id=&status=&domain_name=&user_name=&offset=0&limit=10&sort_key=&sort_dir=
```

Example Response

Status code: 200

OK

```
{
  "jobs" : [ {
    "async_job_id" : "bd4193aa-072d-4ce6-beec-adffc7252341",
    "status" : "AUTO_PARAM_VALIDATE_SUCCESS",
    "domain_name" : "domain_name1",
    "user_name" : "user_name1",
    "create_time" : "2022-11-07T06:41:08Z"
  }, {
    "async_job_id" : "7b65d750-51e5-4647-a088-663d28152a3d",
    "status" : "COMMIT_SUCCESS",
    "domain_name" : "domain_name2",
    "user_name" : "user_name2",
    "create_time" : "2022-11-05T16:03:45Z"
  } ],
  "total_count" : 2
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10000001",
  "error_msg" : "Failed."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.3.4 Querying Details About Tasks Created Asynchronously in Batches with a Specified ID

Function

This API is used to query details about the tasks created asynchronously in batches with a specified ID. By default, the return results are sorted by **create_time** in descending order. Pagination query is supported.

Constraints

- This API is available only for synchronization from MySQL to MySQL, migration from Redis to GeminiDB Redis, migration from cluster Redis to GeminiDB Redis, and synchronization from Oracle to GaussDB Distributed.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/batch-async-jobs/{async_job_id}

Table 7-136 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
async_job_id	Yes	String	ID of the tasks created asynchronously in batches, which is returned by the API for asynchronously creating tasks in batches.

Table 7-137 Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset. The records after this offset will be queried.
limit	No	Integer	Maximum number of records that can be returned.

Request Parameters

Table 7-138 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-139 Response body parameters

Parameter	Type	Description
total_count	Integer	Total number of tasks in the list, which is irrelevant to pagination.
jobs	Array of objects	Response body for querying details about the tasks created asynchronously in batches with a specified ID. For details, see Table 7-140 .

Table 7-140 Data structure description of field **jobs**

Parameter	Type	Description
id	String	Task ID.
status	String	Task status.
create_time	String	Task creation time.
total_count	Integer	Total number of tasks in the list, which is irrelevant to pagination.
master_job_id	String	ID of the primary task.
base_info	Object	Basic information body of a task. For details, see Table 7-141 .
source_endpoint	Array of objects	Information body of the source database. For details, see Table 7-143 .
target_endpoint	Array of objects	Information body of the destination database. For details, see Table 7-143 .
alarm_notify	Object	Information body for setting task exception notification. If this parameter is enabled, the system sends a notification to a specified SMN topic when the task is abnormal. For details, see Table 7-150 .
speed_limit	Array of objects	Flow control information body. <ul style="list-style-type: none">• If you enable flow control, you can customize the maximum migration speed.• If you disable flow control, the migration speed is not limited and the outbound bandwidth of the source database is maximally used, which causes read consumption on the source database accordingly. For example, if the outbound bandwidth of the source database is 100 MB/s and 80% bandwidth is used, the I/O consumption on the source database is 80 MB/s. For details, see Table 7-151 .
user_migration	Object	User migration information body. For details, see Table 7-152 .

Parameter	Type	Description
policy_config	Object	Policy information body. This parameter is used to configure migration and synchronization policies, including the conflict policy, DROP DATASE filtering, and object synchronization scope. For details, see Table 7-155 .
db_param	Object	Database parameter information body. For details, see Table 7-156 .
tuning_parameters	Object	Advanced setting information body. For details, see Table 7-158 .
period_order	Object	Yearly/Monthly information body. For details, see Table 7-160 .
node_info	Object	Information body of the DRS instance. For details, see Table 7-161 .
logs	Array of objects	Information body of a log query result. For details, see Table 7-165 .
network_results	Array of objects	Information body of a connection testing result. For details, see Table 7-166 .
precheck_result	Object	Pre-check result information body. For details, see Table 7-167 .
progress_info	Object	Task progress information body. For details, see Table 7-170 .
migration_object_progress_info	Object	Progress information body of objects being migrated. For details, see Table 7-172 .
metrics	Object	Node metrics. For details, see Table 7-174 .
compare_result	Object	Task comparison result. For details, see Table 7-175 .
support_import_file_resp	Object	Object import information. For details, see Table 7-188 .
instance_features	Map<String,String>	A list of task-level functions controlled by both the switch and version.
task_version	String	Task version.

Parameter	Type	Description
connection_management	Object	Connection management. For details, see Table 7-186 .
public_ip_list	Array of objects	Information about a specified EIP. For details, see Table 7-189 .
bind_public_ip_state	String	Whether an EIP is successfully bound.
children	Array of objects	In the case of multiple tasks, if an EIP fails to be bound to a subtask, the subtask information is returned. For details, see Table 7-190 .
is_writable	String	Whether read-only is disabled for the destination database. <ul style="list-style-type: none"> ● pending: Read-only is being disabled for the destination database. ● success: Read-only is disabled for the destination database. Enumerated values: <ul style="list-style-type: none"> ● pending ● success

Table 7-141 Data structure description of field **base_info**

Parameter	Type	Description
name	String	Task name. The task name can be 4 to 50 characters in length. It is case-insensitive and can contain only letters, digits, hyphens (-), and underscores (_). <ul style="list-style-type: none"> ● Minimum length: 4 ● Maximum length: 50
job_type	String	Task scenario. Values: <ul style="list-style-type: none"> ● migration: real-time migration. ● sync: real-time synchronization. ● cloudDataGuard: real-time disaster recovery. Enumerated values: <ul style="list-style-type: none"> ● migration ● sync ● cloudDataGuard

Parameter	Type	Description
multi_write	Boolean	Whether the DR type is dual-active. Note: <ul style="list-style-type: none"> This parameter is mandatory when job_type is set to cloudDataGuard. If the DR type is dual-active, the value of multi_write is true. Otherwise, the value is false. If job_type is set to other values, multi_write is optional.
engine_type	String	Engine type. The value can be: <ul style="list-style-type: none"> oracle-to-gaussdbv5: Synchronization from Oracle to GaussDB distributed. redis-to-gaussredis: Migration from Redis to GeminiDB Redis. rediscluster-to-gaussredis: Migration from cluster Redis to GeminiDB Redis. Enumerated values: <ul style="list-style-type: none"> oracle-to-gaussdbv5 redis-to-gaussredis rediscluster-to-gaussredis
job_direction	String	Migration direction. Values: <ul style="list-style-type: none"> up: to-the-cloud scenarios and DR scenarios where the current cloud is the standby. down: out-of-cloud scenarios and DR scenarios where the current cloud is the active. non-dbs: self-built databases. Enumerated values: <ul style="list-style-type: none"> up down non-dbs
task_type	String	Migration type. Values: <ul style="list-style-type: none"> FULL_TRANS: full migration. FULL_INCR_TRANS: full+incremental migration. INCR_TRANS: incremental migration. Enumerated values: <ul style="list-style-type: none"> FULL_TRANS FULL_INCR_TRANS INCR_TRANS

Parameter	Type	Description
net_type	String	Network type. Values: <ul style="list-style-type: none"> ● eip: public network. ● vpc: VPC network. The VPC network cannot be selected in DR scenarios. ● vpn: VPN or Direct Connect. Enumerated values: <ul style="list-style-type: none"> ● eip ● vpc ● vpn
charging_mode	String	Billing mode. The pay-per-use billing is used by default. Values: <ul style="list-style-type: none"> ● period: indicates the yearly/monthly billing. ● on_demand: indicates the pay-per-use billing. Enumerated values: <ul style="list-style-type: none"> ● period ● on_demand
enterprise_project_id	String	Enterprise project ID. The default value is 0 , indicating the default enterprise project. Default value: 0
description	String	Task description. The task description can contain a maximum of 256 characters and cannot contain the following special characters: !<>'&"\ Minimum length: 0 Maximum length: 256
start_time	String	Scheduled start time of a task.
expired_days	String	Number of days after which an abnormal task automatically stops. The unit is day. The value ranges from 14 to 100. If this parameter is not specified, the default value is 14 . Default value: 14
tags	Array of objects	Tag information. Up to 20 tags can be added. For details, see Table 7-142 .

Table 7-142 Data structure description of field **tags**

Parameter	Type	Description
key	String	Tag key. The value can contain a maximum of 36 characters, including letters, digits, underscores (_), and hyphens (-). Minimum length: 1 Maximum length: 36
value	String	Tag value. The value can contain a maximum of 43 characters, including letters, digits, underscores (_), and hyphens (-). Minimum length: 1 Maximum length: 43

Table 7-143 Data structure description of fields **source_endpoint** and **target_endpoint**

Parameter	Type	Description
db_type	String	Database type. The value can be: <ul style="list-style-type: none"> • oracle: Oracle. • gaussdbv5: GaussDB distributed. • redis: Redis. • rediscluster: Cluster Redis. • gaussredis: GeminiDB Redis. Enumerated values: <ul style="list-style-type: none"> • oracle • gaussdbv5 • redis • rediscluster • gaussredis
endpoint_type	String	DB instance type. Values: <ul style="list-style-type: none"> • offline: indicates an on-premises database. • ecs: indicates a database built on Huawei Cloud ECSs. • cloud: indicates a Huawei cloud database. Enumerated values: <ul style="list-style-type: none"> • offline • ecs • cloud

Parameter	Type	Description
endpoint_role	String	DB instance role. Values: <ul style="list-style-type: none"> • so: indicates the source database. • ta: indicates the destination database. Enumerated values: <ul style="list-style-type: none"> • so • ta
endpoint	Object	Basic information body of the database. For details, see Table 7-144 .
cloud	Object	Region and project where a DB instance is located. For details, see Table 7-145 .
vpc	Object	Information about the VPC, subnet, and security group where a DB instance resides. For details, see Table 7-146 .
config	Object	Basic information body of database settings. For details, see Table 7-147 .
ssl	Object	Information body of the database SSL certificate. For details, see Table 7-148 .
customized_dns	Object	Custom DNS server. For details, see Table 7-149 .

Table 7-144 Data structure description of fields **endpoint** and **source_sharding**

Parameter	Type	Description
id	String	Database information ID.

Parameter	Type	Description
endpoint_name	String	<p>Database scenario type. The value can be:</p> <ul style="list-style-type: none"> ● oracle: indicates the on-premises Oracle database. ● ecs_oracle: indicates the Oracle database built on Huawei Cloud ECSs. ● cloud_gaussdbv5: indicates the Huawei Cloud distributed GaussDB database. ● mysql: indicates the MySQL database built on other clouds or on-premises MySQL database. ● ecs_mysql: indicates the MySQL database built on Huawei Cloud ECSs. ● cloud_mysql: indicates the Huawei Cloud RDS for MySQL database. ● redis: On-premises Redis database. ● ecs_redis: Redis database built on Huawei Cloud ECSs. ● rediscluster: On-premises cluster Redis database. ● ecs_rediscluster: Cluster Redis database built on Huawei Cloud ECSs. ● cloud_gaussdb_redis: Huawei Cloud GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● oracle ● ecs_oracle ● cloud_gaussdbv5 ● mysql ● ecs_mysql ● cloud_mysql ● redis ● ecs_redis ● rediscluster ● ecs_rediscluster ● cloud_gaussdb_redis

Parameter	Type	Description
ip	String	<p>Database IP address. Constraints:</p> <ul style="list-style-type: none"> • If an on-premises MongoDB database is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. A maximum of three IP addresses or domain names can be entered. • If a DDS instance is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. • If the database is a cluster Redis database, enter the IP addresses and port numbers of all shards in the source cluster Redis database. Use colons (:) to separate a database IP address and port number. Use commas (,) to separate multiple values. You are advised to enter the IP address of the slave node of a cluster shard. Up to 32 IP addresses or domain names can be entered. Use commas (,) to separate multiple IP addresses or domain names. <p>Example:</p> <ul style="list-style-type: none"> • MongoDB: 192.168.0.10:8080,192.168.0.11:8080,192.168.0.12:8080 • DDS: 192.168.205.130:8635,192.168.250.64:8635 • Cluster Redis: 192.168.0.1:8080,192.168.0.2:8080
db_port	String	<p>Database port.</p> <p>The value is an integer ranging from 1 to 65535.</p>
db_user	String	Database username.
db_password	String	Database password.
instance_id	String	ID of a Huawei Cloud DB instance.
instance_name	String	Name of a Huawei Cloud DB instance.
db_name	String	<p>Database name. Example:</p> <ul style="list-style-type: none"> • oracle: serviceName.orcl.

Parameter	Type	Description
source_sharding	Array of objects	Information about the physical source database. For details, see Table 7-144 .

Table 7-145 Data structure description of field **cloud**

Parameter	Type	Description
region	String	Region ID. This parameter is mandatory when DB Instance Type is set to ecs (database built on Huawei Cloud ECSs) or cloud (Huawei cloud database). For details, see Regions and Endpoints . Note: If there are subprojects in a region, the region ID is a combination of the regional project ID and subproject ID, which are combined using an underscore (_).
project_id	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
az_code	String	Name of the AZ where the database is located.

Table 7-146 Data structure description of field **vpc**

Parameter	Type	Description
vpc_id	String	ID of the VPC where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. Method 2: Call the API for querying VPCs. For details, see Querying VPCs .
subnet_id	String	ID of the subnet where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and click the target subnet on the Subnets page to view the network ID on the displayed page. Method 2: Call the API for querying subnets. For details, see Querying Subnets .

Parameter	Type	Description
security_group_id	String	ID of the security group where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console. Choose Access Control > Security Groups in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page. Method 2: Call the API for querying security groups. For details, see Querying Security Groups .

Table 7-147 Data structure description of field **config**

Parameter	Type	Description
is_target_read_only	Boolean	Whether the destination DB instance is set to read-only. This parameter is available only when job_direction is set to up during MySQL migration and DR. In the DR scenario, this parameter is mandatory and set to true if the current cloud is the standby in single-active DR. If this parameter is not specified, the default value is true . Default value: true
node_num	Integer	Number of subtasks connected to the source cluster Redis instance for data migration from cluster Redis to GeminiDB Redis. The value ranges from 1 to 16 and cannot be greater than the number of shards in the source cluster Redis instance. Set this parameter based on the scale of the source cluster Redis instance. You are advised to set one subtask to connect to four shards in the source cluster Redis instance. Minimum value: 1 Maximum value: 16 Default value: 0

Table 7-148 Data structure description of field **ssl**

Parameter	Type	Description
ssl_link	Boolean	Whether SSL is enabled. If SSL is enabled, the value of this parameter is true .
ssl_cert_name	String	SSL certificate name.

Parameter	Type	Description
ssl_cert_key	String	SSL certificate content, which is encrypted using Base64.
ssl_cert_check_sum	String	The checksum value of the SSL certificate, which is used for backend verification. This parameter is mandatory for secure connection to the source database.
ssl_cert_password	String	SSL certificate password. This parameter is mandatory if the certificate file name extension is .p12.

Table 7-149 Data structure description of field **customized_dns**

Parameter	Type	Description
is_set_dns	Boolean	Specifies whether to set your own DNS server.
set_dns_action	String	Behavior of setting your own DNS server. <ul style="list-style-type: none"> ● add: Add a customized DNS server IP address. ● keep: Retain the DNS server IP address. ● update: Update the customized DNS server IP address. (The update takes effect when the DNS server IP address changes.) ● recover: Restore the default DNS server IP address. (Restoration may cause domain name resolution failures. Exercise caution when performing this operation.) Enumerated values: <ul style="list-style-type: none"> ● add ● keep ● update ● recover
dns_ip	String	DNS server IP address. Minimum length: 0 Maximum length: 15

Table 7-150 Data structure description of field **alarm_notify**

Parameter	Type	Description
alarm_to_user	Boolean	Whether to notify users of alarms. Default value: false

Parameter	Type	Description
topic_urn	String	SMN topic URN.
delay_time	Long	<p>Delay threshold, in seconds. Values:</p> <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0 <p>NOTE</p> <ol style="list-style-type: none"> 1. A synchronization delay indicates a time difference (in seconds) of synchronization between the source and destination database. 2. If the delay exceeds a specified value and lasts for 6 minutes, DRS will notify specified recipients. (In the early stages of an incremental migration, there is more delay because more data is waiting to be synchronized. In this situation, no notifications will be sent.) 3. This option is available only for full+incremental tasks.
rpo_delay	Long	<p>RPO delay threshold, in seconds. Values:</p> <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0 <p>NOTE</p> <p>If the RPO delay between the service database and the DRS instance exceeds a specified value and lasts for 6 minutes, DRS will notify specified recipients. (In the early stages of an incremental DR, there is more delay because more data is waiting to be synchronized. In this situation, no notifications will be sent.)</p>
rto_delay	Long	<p>RTO delay threshold, in seconds. Values:</p> <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0 <p>NOTE</p> <p>If the RTO delay between the DRS instance and the DR database exceeds a specified value and lasts for 6 minutes, DRS will notify specified recipients.</p>

Table 7-151 Data structure description of field **speed_limit**

Parameter	Type	Description
begin	String	Start time (UTC) of flow control. The start time is an integer in hh:mm format and the minutes part is ignored. hh indicates the hour, for example, 01:00.
end	String	End time (UTC) in the format of hh:mm, for example, 15:59. The value must end with 59.
speed	String	Speed. The value ranges from 1 to 9,999, in MB/s.

Table 7-152 Data structure description of field **user_migration**

Parameter	Type	Description
is_migrate_user	Boolean	Whether to migrate users.
is_set_password	Boolean	Whether to reset a unified password. Values: <ul style="list-style-type: none"> true: Reset a unified password. false: Do not reset a unified password. The following scenarios are supported: <ul style="list-style-type: none"> Real-time migration: MySQL migration.
password	String	Unified password. This parameter is mandatory when is_set_password is set to true . The password cannot be empty.
user_list	Array of objects	User list in the migration objects. The following scenarios are supported: <ul style="list-style-type: none"> Real-time migration: MySQL-to-MySQL migration and MongoDB-to-DDS migration. For details, see Table 7-153 .
role_list	Array of objects	User role in the migration objects. The following scenarios are supported: <ul style="list-style-type: none"> Real-time migration: MongoDB-to-DDS migration. For details, see Table 7-154 .

Table 7-153 Data structure description of field **user_list**

Parameter	Type	Description
id	String	User ID.

Parameter	Type	Description
account	String	User.
is_set_password	Boolean	Whether to reset the user password. The following scenarios are supported: <ul style="list-style-type: none"> Real-time migration: MySQL migration.
password	String	New password. This parameter is mandatory when is_set_password is set to true . The password cannot be empty.

Table 7-154 Data structure description of field **role_list**

Parameter	Type	Description
role	String	Role.

Table 7-155 Data structure description of field **policy_config**

Parameter	Type	Description
filter_ddl_policy	String	DDL filtering policy. Values: <ul style="list-style-type: none"> drop_database Scenarios: <ul style="list-style-type: none"> Real-time migration: For MySQL migration, this parameter can be set to "", indicating that DROP DATABASE is not filtered. Real-time synchronization: For MySQL synchronization, this parameter can only be set to drop_database. Enumerated values: <ul style="list-style-type: none"> drop_database

Parameter	Type	Description
conflict_policy	String	<p>Incremental conflict policy. The conflict policy refers to the conflict handling policy during incremental synchronization. By default, conflicts in the full synchronization phase are ignored. Values:</p> <ul style="list-style-type: none"> ● ignore: Ignore the conflict. The system will ignore the conflicting data and continue the subsequent synchronization process. ● stop: Report an error. The synchronization task will be stopped and fail. You can view the details in synchronization logs. ● overwrite: Overwrite the existing data with the synchronized data. Conflicting data will be overwritten. <p>Scenarios:</p> <ul style="list-style-type: none"> ● Real-time migration: Not supported. ● Real-time synchronization: Supported. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● ignore ● stop ● overwrite
index_trans	Boolean	<p>Object synchronization scope: indicates whether to synchronize normal indexes. By default, DRS synchronizes the primary key or unique index. A normal index refers to an index other than the primary key or unique index. Values:</p> <ul style="list-style-type: none"> ● true: All indexes will be synchronized. ● false: Only primary key or unique indexes are synchronized. <p>Default value: true</p>
ddl_trans	Boolean	<p>Object synchronization scope: indicates whether to synchronize DDLs in the incremental phase. Values:</p> <ul style="list-style-type: none"> ● true: DDLs are synchronized in the incremental phase. ● false: DDLs are not synchronized in the incremental phase. <p>Default value: true</p>

Parameter	Type	Description
data_sync_topology_type	String	<p>Data synchronization topology. Data synchronization supports multiple synchronization topologies. You can plan your synchronization instances based on service requirements. Values:</p> <ul style="list-style-type: none">● one2one: one-to-one.● one2many: one-to-many.● many2one: many-to-one. <p>Default value: one2one</p> <p>Enumerated values:</p> <ul style="list-style-type: none">● one2one● one2many● many2one

Parameter	Type	Description
support_ddl_info	String	<p>DDLs to be synchronized. Values:</p> <ul style="list-style-type: none"> ● CREATE_TABLE: Create a table. ● ADD_COLUMN: Add a column. ● MODIFY_COLUMN: Modify column attribute. ● CHANGE_COLUMN: Change column attribute. ● DROP_INDEX: Delete an index. ● ADD_INDEX: Add an index. ● CREATE_INDEX: Create an index. ● RENAME_INDEX: Rename an index. <p>Note:</p> <ul style="list-style-type: none"> ● In one-to-one and one-to-many scenarios, if the DDL usage of the source and destination databases must be consistent, high-risk DDLs must be synchronized. ● In one-to-one and one-to-many scenarios, if you do not want a high-risk DDL to be performed in the destination, deselect the high-risk DDL to protect destination data. However, filtering DDL may cause synchronization to fail, for example, column deletion. ● In many-to-one data synchronization tasks, it is recommended that only the ADD COLUMN operation is synchronized, or tasks may fail or data may be inconsistent due to changes in destination tables. Typical failure scenarios are as follows: <ul style="list-style-type: none"> – Synchronizing the TRUNCATE operation clears all destination data. – Synchronizing the CREATE INDEX operation locks the destination table. – Synchronizing the RENAME operation causes other task failure because the destination table cannot be found. – Synchronizing the MODIFY COLUMN operation causes other task failure due to incompatible data types. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CREATE_TABLE ● ADD_COLUMN ● MODIFY_COLUMN ● CHANGE_COLUMN

Parameter	Type	Description
		<ul style="list-style-type: none"> • DROP_INDEX • ADD_INDEX • CREATE_INDEX • RENAME_INDEX
sync_type_policy	String	Synchronization object type. Values: <ul style="list-style-type: none"> • supportAllType: All types. • tableData: Data. • tableStructure: Table structure. • constraintData: Index. NOTE Except supportAllType , other types can be specified together, for example, tableData,tableStructure .
increment_read_mode	String	Incremental log reading mode for synchronization from Oracle to GaussDB: logminer or xstream .
dml_types	String	DML synchronization type.

Table 7-156 Data structure description of field **db_param**

Parameter	Type	Description
common	Array of objects	Common parameter. Only the values of destination database parameters whose comparison results are inconsistent can be changed. For details, see Table 7-157 .
performance	Array of objects	Performance parameter. If the comparison results are consistent, you can also change the values of destination database parameters. For details, see Table 7-157 .

Table 7-157 Data structure description of fields **common** and **performance**

Parameter	Type	Description
key	String	Database parameter name.
target_value	String	Parameter value of the destination database.

Table 7-158 Data structure description of field **tuning_params**

Parameter	Type	Description
full_sync	Array of objects	Full migration tuning parameters. For details, see Table 7-159 .
incre_capture	Array of objects	Incremental capture tuning parameters. For details, see Table 7-159 .
incre_apply	Array of objects	Incremental replay tuning parameters. For details, see Table 7-159 .
incre_relay	Array of objects	Incremental log extraction tuning parameters. For details, see Table 7-159 .

Table 7-159 Data structure description of fields **full_sync**, **incre_capture**, **incre_apply**, and **incre_relay**

Parameter	Type	Description
param_name	String	Parameter name.
param_value	String	Parameter value.
availability	Boolean	Available or not.

Table 7-160 Data structure description of field **period_order**

Parameter	Type	Description
period_type	Integer	Subscription period type. Values: <ul style="list-style-type: none"> • 2: indicates that the service is subscribed by month. • 3: indicates that the service is subscribed by year. Default value: 3 Enumerated values: <ul style="list-style-type: none"> • 2 • 3
period_num	Integer	Number of subscription periods. This parameter depends on the value of period_type . For example: <ul style="list-style-type: none"> • When period_type is set to 2, the value 1 indicates one month. • When period_type is set to 3, the value 1 indicates one year.

Parameter	Type	Description
is_auto_renew	Integer	Whether auto renewal is enabled. Values: <ul style="list-style-type: none"> • 0: indicates that auto renewal is disabled. This is the default value. You need to pay manually. • 1: indicates that auto renewal is enabled. Default value: 0 Enumerated values: <ul style="list-style-type: none"> • 0 • 1

Table 7-161 Data structure description of field **node_info**

Parameter	Type	Description
spec	Object	Information body of DRS instance specifications. For details, see Table 7-162 .
vpc	Object	Information body of DRS instance VPC. This parameter is mandatory for self-built databases. For details, see Table 7-163 .
base_info	Object	Basic information about a task instance. For details, see Table 7-164 .

Table 7-162 Data structure description of field **spec**

Parameter	Type	Description
node_type	String	Specification code. Values: <ul style="list-style-type: none"> • micro: minimum specifications. • small: small specifications. • medium: medium specifications. • high: large specifications. Enumerated values: <ul style="list-style-type: none"> • micro • small • medium • high

Table 7-163 Data structure description of field **vpc**

Parameter	Type	Description
vpc_id	String	ID of the VPC where the DRS instance is located.
subnet_id	String	ID of the subnet where the DRS instance is located.
custom_node_ip	String	IP address of the DRS instance to be created. Use commas (,) to separate multiple values. Only IPv4 addresses are supported. To obtain the IP address, perform the following steps: <ul style="list-style-type: none"> Method 1: Log in to the VPC console and click the target subnet on the Subnets page. View the subnet CIDR block and select an IP address that is not in use. Method 2: Call the API for querying private IP addresses. For details, see "Querying Private IP Addresses". Select a private IP address whose device_owner is left blank. Example: 192.168.0.10,192.168.0.11
security_group_id	String	ID of the security group where the DRS instance is located.

Table 7-164 Data structure description of field **base_info**

Parameter	Type	Description
instance_type	String	Instance type. The value can be: <ul style="list-style-type: none"> single: single instance. ha: primary/standby instance. Enumerated values: <ul style="list-style-type: none"> single ha
arch	String	CPU architecture. The value can be: <ul style="list-style-type: none"> x86 arm Enumerated values: <ul style="list-style-type: none"> x86 arm

Parameter	Type	Description
availability_zone	String	AZ ID. If the task instance is not a single instance, you need to specify an AZ for each node of the instance and separate the AZs with commas (.). Example: <ul style="list-style-type: none"> If instance_type is set to single, the value is cn-north-4a. If instance_type is set to ha, the value is cn-north-4a,cn-north-4b.
status	String	Status.
role	String	Primary/Standby role of a task.

Table 7-165 Data structure description of field **logs**

Parameter	Type	Description
level	String	Log level.
message	String	Log information.
create_time	String	Log time.

Table 7-166 Data structure description of field **network_results**

Parameter	Type	Description
ip	String	IP address for connection testing.
success	Boolean	Whether the connection testing is successful.
result	String	Connection testing result.
status	String	Whether the connection testing is successful. Values: <ul style="list-style-type: none"> success: The connection testing is successful. failed: The connection testing fails. Enumerated values: <ul style="list-style-type: none"> success failed
error_code	String	Error code of the connection testing failure.
error_msg	String	Error message of the connection testing failure.

Table 7-167 Data structure description of field **precheck_result**

Parameter	Type	Description
result	Boolean	Whether the pre-check items are passed.
process	String	Pre-check progress, in percentage.
total_passed_rate	String	Percentage of passed pre-checks.
rds_instance_id	String	DB instance ID.
job_direction	String	Migration direction.
precheck_results	Array of objects	Pre-check results. For details, see Table 7-168 .

Table 7-168 Data structure description of field **precheck_results**

Parameter	Type	Description
item	String	Check item.
result	String	Check results. Values: <ul style="list-style-type: none"> ● PASSED: The check is passed. ● ALARM: There are check items to be confirmed. ● FAILED: The check fails. Enumerated values: <ul style="list-style-type: none"> ● PASSED ● ALARM ● FAILED
failed_reason	String	Failure cause.
data	String	Failure data.
raw_error_message	String	Failure details.
group	String	Check item group.
is_support_skip	Boolean	Whether to skip the check.
is_skipped	Boolean	Skipped.
failed_sub_jobs	Array of objects	Details about a failed subtask. For details, see Table 7-169 .

Table 7-169 Data structure description of field **failed_sub_jobs**

Parameter	Type	Description
id	String	Subtask ID.
name	String	Subtask name.
check_result	String	Subtask check result.

Table 7-170 Data structure description of field **progress_info**

Parameter	Type	Description
progress	String	Migration comparison progress in percentage.
incr_trans_delay	String	Incremental migration delay (unit: s).
incr_trans_delay_millis	String	Incremental migration delay (unit: ms).
task_mode	String	Migration type.
transfer_statuses	String	Migration status.
process_time	String	Migration time.
remaining_time	String	Estimated remaining time.
progress_map	Map<String, ProgressCompleteInfo >	Full migration progress details. For details, see Table 7-171 .

Table 7-171 Data structure description of field **progress_map**

Parameter	Type	Description
completed	String	Progress.
remaining_time	String	Estimated remaining time.

Table 7-172 Data structure description of field **migration_object_progress_info**

Parameter	Type	Description
migration_object_overview	Array of objects	Overview details. For details, see Table 7-173 .

Parameter	Type	Description
create_time	String	Data generation time.
full_start_time	String	Start time of full migration.
full_complete_time	String	End time of full migration.
incr_start_time	String	Start time of incremental migration.
end_time	String	End time.

Table 7-173 Data structure description of field **migration_object_overview**

Parameter	Type	Description
type	String	Type.
src_count	String	Amount of data to be migrated.
dst_count	String	Amount of data migrated.
status	String	Status.
start_time	String	Start time.
end_time	String	End time.

Table 7-174 Data structure description of field **metrics**

Parameter	Type	Description
job_id	String	Task ID.
node_id	String	Instance ID.
time_stamp	String	Time when the metric is reported.
cpu_util	String	CPU usage.
mem_util	String	Memory usage.
network_incoming_bytes_rate	String	Network input throughput.
network_outgoing_bytes_rate	String	Network output throughput.
disk_read_bytes_rate	String	Disk read throughput.

Parameter	Type	Description
disk_write_bytes_rate	String	Disk write throughput.
apply_rows_rate	String	Rows written into destination database per second.
apply_transactions_rate	String	DML TPS.
apply_ddl_rate	String	DDL TPS.
apply_average_execute_time	String	Average transaction execution time.
apply_average_commit_time	String	Average transaction commit time.
apply_current_state	String	Synchronization status.

Table 7-175 Data structure description of field **compare_result**

Parameter	Type	Description
objects_compare_overview_info	Object	Information body of object-level comparison overview. For details, see Table 7-176 .
objects_compare_detail_infos	Array of objects	Information body of object-level comparison details. For details, see Table 7-178 .
data_compare_task_list	Array of objects	List of data comparison tasks. For details, see Table 7-179 .
line_compare_overview_infos	Array of objects	Information body of row comparison overview. For details, see Table 7-180 .
line_compare_detail_infos	Array of objects	Information body of row comparison details. For details, see Table 7-181 .
content_compare_overview_infos	Array of objects	Information body of value comparison overview. For details, see Table 7-182 .
content_compare_detail_infos	Array of objects	Information body of value comparison details. For details, see Table 7-183 .

Parameter	Type	Description
content_diff_detail_info	Object	Details about inconsistent value comparison data. For details, see Table 7-184 .

Table 7-176 Data structure description of field **objects_compare_overview_info**

Parameter	Type	Description
create_time	String	Time when a comparison task is created.
compare_results	Array of objects	Comparison result. For details, see Table 7-177 .
start_time	String	Start time of a comparison task.
status	String	Status of a comparison task. Values: <ul style="list-style-type: none"> ● RUNNING: The comparison task is in progress. ● WAITING_FOR_RUNNING: The comparison task is waiting to be started. ● SUCCESSFUL: The comparison task is complete. ● FAILED: The comparison task fails. ● CANCELLED: The comparison task is canceled. Enumerated values: <ul style="list-style-type: none"> ● RUNNING ● WAITING_FOR_RUNNING ● SUCCESSFUL ● FAILED ● CANCELLED
export_status	String	Status of the exported comparison result.
report_remaining_seconds	Long	Remaining validity period of the exported comparison result.
compare_job_id	String	ID of a comparison task.
error_msg	String	Failure cause.

Table 7-177 Data structure description of field **compare_results**

Parameter	Type	Description
type	String	<p>Object type. Values:</p> <ul style="list-style-type: none"> ● DB: indicates a database. ● TABLE: indicates a table. ● VIEW: indicates a view. ● EVENT: indicates an event. ● ROUTINE: indicates a stored procedure and function. ● INDEX: indicates an index. ● TRIGGER: indicates a trigger. ● SYNONYM: indicates a synonym. ● FUNCTION: indicates a function. ● PROCEDURE: indicates a stored procedure. ● TYPE: indicates a user-defined type. ● RULE: indicates a rule. ● DEFAULT_TYPE: indicates a default value. ● PLAN_GUIDE: indicates an execution plan. ● CONSTRAINT: indicates a constraint. ● FILE_GROUP: indicates a file group. ● PARTITION_FUNCTION: indicates a partition function. ● PARTITION_SCHEME: indicates a partition scheme. ● TABLE_COLLATION: indicates table sorting rule. ● EXTENSIONS: indicates a plug-in. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● DB ● TABLE ● VIEW ● EVENT ● ROUTINE ● INDEX ● TRIGGER ● SYNONYM ● FUNCTION ● PROCEDURE ● TYPE ● RULE ● DEFAULT_TYPE

Parameter	Type	Description
		<ul style="list-style-type: none"> • PLAN_GUIDE • CONSTRAINT • FILE_GROUP • PARTITION_FUNCTION • PARTITION_SCHEME • TABLE_COLLATION • EXTENSIONS
source_count	Long	Number of source objects.
target_count	Long	Number of destination objects.
status	String	<p>Comparison result. Values: CONSISTENT: consistent. INCONSISTENT: inconsistent. COMPARING: The comparison is in progress. WAITING_FOR_COMPARISON: waiting for comparison. FAILED_TO_COMPARE: The comparison fails. TARGET_DB_NOT_EXIST: The destination database does not exist. CAN_NOT_COMPARE: Comparison cannot be performed.</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • CONSISTENT • INCONSISTENT • COMPARING • WAITING_FOR_COMPARISON • FAILED_TO_COMPARE • TARGET_DB_NOT_EXIST • CAN_NOT_COMPARE

Table 7-178 Data structure description of field **objects_compare_detail_infos**

Parameter	Type	Description
source_db_value	String	Comparison value of the source database.
target_db_value	String	Comparison value of the destination database.
source_db_name	String	Source database name.
target_db_name	String	Destination database name.

Parameter	Type	Description
error_message	String	Failure cause.

Table 7-179 Data structure description of field **data_compare_task_list**

Parameter	Type	Description
id	String	ID of a comparison task.
type	String	Comparison type.
start_time	String	Start time.
end_time	String	End time.
status	String	<p>Status of a comparison task. Values:</p> <ul style="list-style-type: none"> ● RUNNING: The comparison task is in progress. ● WAITING_FOR_RUNNING: The comparison task is waiting to be started. ● SUCCESSFUL: The comparison task is complete. ● FAILED: The comparison task fails. ● CANCELLED: The comparison task is canceled. ● TIMEOUT_INTERRUPT: The comparison task times out. ● FULL_DOING: Full verification is in progress. ● INCRE_DOING: Incremental verification is in progress. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● RUNNING ● WAITING_FOR_RUNNING ● SUCCESSFUL ● FAILED ● CANCELLED ● TIMEOUT_INTERRUPT ● FULL_DOING ● INCRE_DOING
compute_type	String	Compute resource of a comparison task.
export_status	String	Status of the exported comparison result.
report_remain_seconds	String	Remaining validity period of the exported comparison result.

Parameter	Type	Description
compare_job_tag	Map<String,String>	Tag of a comparison task.
error_msg	String	Failure cause.

Table 7-180 Data structure description of field **line_compare_overview_infos**

Parameter	Type	Description
source_db_name	String	Source database name.
target_db_name	String	Destination database name.
status	String	<p>Row comparison result. Values:</p> <ul style="list-style-type: none"> ● CONSISTENT: consistent. ● INCONSISTENT: inconsistent. ● COMPARING: The comparison is in progress. ● WAITING_FOR_COMPARISON: waiting for comparison. ● FAILED_TO_COMPARE: The comparison fails. ● TARGET_DB_NOT_EXIST: The destination database does not exist. ● CAN_NOT_COMPARE: Comparison cannot be performed. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CONSISTENT ● INCONSISTENT ● COMPARING ● WAITING_FOR_COMPARISON ● FAILED_TO_COMPARE ● TARGET_DB_NOT_EXIST ● CAN_NOT_COMPARE

Table 7-181 Data structure description of field **line_compare_detail_infos**

Parameter	Type	Description
source_table_name	String	Table name of the source database.

Parameter	Type	Description
source_row_num	String	Number of table rows in the source database.
target_table_name	String	Table name of the destination database.
target_row_num	String	Number of table rows in the destination database.
difference_row_num	String	Difference value.
status	String	<p>Comparison result. Values:</p> <ul style="list-style-type: none"> ● CONSISTENT: consistent. ● INCONSISTENT: inconsistent. ● COMPARING: The comparison is in progress. ● WAITING_FOR_COMPARISON: waiting for comparison. ● FAILED_TO_COMPARE: The comparison fails. ● TARGET_DB_NOT_EXIST: The destination database does not exist. ● CAN_NOT_COMPARE: Comparison cannot be performed. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CONSISTENT ● INCONSISTENT ● COMPARING ● WAITING_FOR_COMPARISON ● FAILED_TO_COMPARE ● TARGET_DB_NOT_EXIST ● CAN_NOT_COMPARE
message	String	Message.

Table 7-182 Data structure description of field **content_compare_overview_infos**

Parameter	Type	Description
source_db	String	Source database name.
target_db	String	Destination database name.

Parameter	Type	Description
status	String	<p>Comparison result. Values:</p> <ul style="list-style-type: none"> ● CONSISTENT: consistent. ● INCONSISTENT: inconsistent. ● COMPARING: The comparison is in progress. ● WAITING_FOR_COMPARISON: waiting for comparison. ● FAILED_TO_COMPARE: The comparison fails. ● TARGET_DB_NOT_EXIST: The destination database does not exist. ● CAN_NOT_COMPARE: Comparison cannot be performed. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CONSISTENT ● INCONSISTENT ● COMPARING ● WAITING_FOR_COMPARISON ● FAILED_TO_COMPARE ● TARGET_DB_NOT_EXIST ● CAN_NOT_COMPARE
compare_result	Boolean	Comparison result.

Table 7-183 Data structure description of field **content_compare_detail_infos**

Parameter	Type	Description
source_db	String	Source database name.
target_db	String	Destination database name.
source_table_name	String	Table name of the source database.
target_table_name	String	Table name of the destination database.
source_row_number	Long	Number of table rows in the source database.
target_row_number	Long	Number of table rows in the destination database.

Parameter	Type	Description
difference_row_num	Long	Number of inconsistent rows.
line_compare_result	Boolean	Row comparison result. Values: <ul style="list-style-type: none"> ● true: consistent. ● false: inconsistent.
content_compare_result	Boolean	Value comparison result. Values: <ul style="list-style-type: none"> ● true: consistent. ● false: inconsistent.
message	String	Failure cause.

Table 7-184 Data structure description of field **ontent_diff_detail_info**

Parameter	Type	Description
count	Long	Quantity.
target_meta_is_null	Long	Inconsistency details: The objects were found only in the source database.
source_meta_is_null	Long	Inconsistency details: The objects were found only in the destination database.
source_target_meta_not_null	Long	Inconsistency details: The objects were found in the source and destination databases.
contents_infos	Array of objects	Information list. For details, see Table 7-185 .

Table 7-185 Data structure description of field **contents_infos**

Parameter	Type	Description
source_key_value	Array of strings	Key value of the source database.
target_key_value	Array of strings	Key value of the destination database.
source_select_sql	String	Query the SQL statements of the source database.
target_select_sql	String	Query the SQL statements of the destination database.

Table 7-186 Data structure description of field **connection_management**

Parameter	Type	Description
driver_management	Object	Driver management. For details, see Table 7-187 .

Table 7-187 Data structure description of field **driver_management**

Parameter	Type	Description
driver_name	String	Driver name.

Table 7-188 Data structure description of field **support_import_file_resp**

Parameter	Type	Description
file_size	String	File import threshold.
previous_select	String	Mode in which objects are selected last time.

Table 7-189 Data structure description of field **public_ip_list**

Parameter	Type	Description
id	String	ID of a specified EIP.
public_ip	String	EIP.
type	String	Type of a task with an EIP bound. <ul style="list-style-type: none"> In a primary/standby task, master indicates the primary task, and slave indicates the standby task. In other cases, the value is fixed to master. Enumerated values: <ul style="list-style-type: none"> master slave

Table 7-190 Data structure description of field **children**

Parameter	Type	Description
id	String	Subtask ID.
name	String	Subtask name.

Status code: 400

Table 7-191 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying details about the tasks created asynchronously in batches with a specified ID

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/batch-async-jobs/bd4193aa-072d-4ce6-beec-adffc7252341
```

Example Response

Status code: 200

OK

```
{
  "jobs" : [ {
    "id" : "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r",
    "status" : "CONFIGURATION",
    "create_time" : "2022-11-07T16:15:18Z",
    "base_info" : {
      "name" : "DRS-1234",
      "job_type" : "sync",
      "engine_type" : "oracle-to-gaussdbv5",
      "job_direction" : "up",
      "task_type" : "FULL_INCR_TRANS",
      "net_type" : "eip",
      "charging_mode" : "on_demand",
      "enterprise_project_id" : "0",
      "description" : "",
      "expired_days" : 14,
      "tags" : [ {
        "key" : "test",
        "value" : "test"
      } ]
    }
  },
  "source_endpoint" : [ {
    "db_type" : "oracle",
    "endpoint_type" : "offline",
    "endpoint_role" : "so",
    "endpoint" : {
      "id" : "f59e6118-da89-4fdb-9b98-65f56709928a",
      "endpoint_name" : "oracle",
      "ip" : "10.154.217.239",
      "db_port" : "1521",
      "db_user" : "ORACLE_USER",
      "db_name" : "serviceName.orcl"
    }
  }
  ]
}
```

```
    },
    "ssl" : {
      "ssl_link" : false
    }
  }],
  "target_endpoint" : [ {
    "db_type" : "gaussdbv5",
    "endpoint_type" : "cloud",
    "endpoint_role" : "ta",
    "endpoint" : {
      "id" : "10deb576-8885-473b-a213-4d76e668dc0d",
      "endpoint_name" : "cloud_gaussdbv5",
      "instance_id" : "c2c7579bc09c490b9d8009db715aeb0ain14",
      "db_user" : "root"
    },
    "cloud" : {
      "region" : "cn-north-4",
      "project_id" : "9dc8c0f3f74c4dbb23c29cf0318ee561",
      "az_code" : "cn-north-4a,cn-north-4g,cn-north-4c"
    },
    "vpc" : {
      "vpc_id" : "2cb5d364-ae63-4fbb-85b7-7d59f4a88f8f",
      "subnet_id" : "2cb54324-ae63-4fbb-85b7-7d59f4a88f8f",
      "security_group_id" : "039a3s89-665a-43e2-9b4f-bda7d9ee148d"
    }
  }],
  "alarm_notify" : {
    "alarm_to_user" : {
      "alarm_to_user" : true,
      "topic_urn" : "urn:smn:cn-north-4:f2c2468c3ee7410c862a461ca073d2f2:test",
      "delay_time" : 60
    }
  },
  "speed_limit" : [ {
    "begin" : "16:00",
    "end" : "15:59",
    "speed" : "10"
  } ],
  "policy_config" : {
    "ddl_trans" : false
  },
  "node_info" : {
    "spec" : {
      "node_type" : "medium"
    }
  }
}, {
  "id" : "dc6016cf-f3b6-4c2d-b4d7-5084b0fjb20r",
  "status" : "INCRE_TRANSFER_STARTED",
  "create_time" : "2022-11-05T15:32:22Z",
  "base_info" : {
    "name" : "DRS-2345",
    "job_type" : "sync",
    "engine_type" : "oracle-to-gaussdbv5",
    "job_direction" : "up",
    "task_type" : "FULL_INCR_TRANS",
    "net_type" : "vpn",
    "charging_mode" : "on_demand",
    "enterprise_project_id" : "0",
    "description" : "",
    "expired_days" : 14,
    "tags" : [ {
      "key" : "test",
      "value" : "test"
    } ]
  }
},
  "source_endpoint" : [ {
    "db_type" : "oracle",
    "endpoint_type" : "offline",
    "endpoint_role" : "so",
    "endpoint" : {
```

```
"id" : "6a2aea81-c01d-4313-b93e-6a17f9351c51",
"endpoint_name" : "oracle",
"ip" : "10.154.227.134",
"db_port" : "1521",
"db_user" : "ORACLE_USER",
"db_name" : "serviceName.orcl"
},
"ssl" : {
  "ssl_link" : false
}
}],
"target_endpoint" : [ {
  "db_type" : "gaussdbv5",
  "endpoint_type" : "cloud",
  "endpoint_role" : "ta",
  "endpoint" : {
    "id" : "f59e6118-da89-4fdb-9b98-65f56709928a",
    "endpoint_name" : "cloud_gaussdbv5",
    "instance_id" : "c2c7579bc09c490b9d8009db715aeb0ain14",
    "db_user" : "root"
  },
  "cloud" : {
    "region" : "cn-north-4",
    "project_id" : "9dc8c0f3f74c4dbb23c29cf0318ee561",
    "az_code" : "cn-north-4a,cn-north-4g,cn-north-4c"
  },
  "vpc" : {
    "vpc_id" : "2cb5d364-ae63-4fbb-85b7-7d59f4a88f8f",
    "subnet_id" : "2cb54324-ae63-4fbb-85b7-7d59f4a88f8f",
    "security_group_id" : "039a3s89-665a-43e2-9b4f-bda7d9ee148d"
  },
  "ssl" : {
    "ssl_link" : false
  }
}
}],
"policy_config" : {
  "ddl_trans" : false
},
"node_info" : {
  "spec" : {
    "node_type" : "high"
  }
}
}],
"total_count" : 2
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10000001",
  "error_msg" : "Failed."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.3.5 Updating Details About Tasks Created Asynchronously in Batches with a Specified ID

Function

This API is used to update details about the tasks created asynchronously in batches with a specified ID.

Constraints

- This API is available only for synchronization from MySQL to MySQL, migration from Redis to GeminiDB Redis, migration from cluster Redis to GeminiDB Redis, and synchronization from Oracle to GaussDB Distributed.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

PUT /v5/{project_id}/batch-async-jobs/{async_job_id}

Table 7-192 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
async_job_id	Yes	String	ID of the tasks created asynchronously in batches, which is returned by the API for asynchronously creating tasks in batches.

Request Parameters

Table 7-193 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-194 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	Request body for updating details about the tasks created asynchronously in batches with a specified ID. For details, see Table 7-195 .

Table 7-195 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
type	Yes	String	<p>Type of the task details to be updated with a specified ID.</p> <p>Values:</p> <ul style="list-style-type: none"> • all: Specify all parameters for updating the tasks created asynchronously in batches if parameter verification fails. • endpoint: Update the source or destination database information about the tasks created asynchronously in batches if the connection testing fails. • network: Update the source or destination database information about the tasks created asynchronously in batches if the connection testing fails. • policy: Update the policy configuration of the tasks created asynchronously in batches. • db_object: Update the object information about the tasks created asynchronously in batches. • precheck: Perform the pre-check again for the tasks created asynchronously in batches. <p>Enumerated values:</p> <ul style="list-style-type: none"> • all • endpoint • network • policy • db_object • precheck

Parameter	Mandatory	Type	Description
params	Yes	Object	Parameters of the task details to be updated with a specified ID. For details, see Table 7-196 .

Table 7-196 Data structure description of field **params**

Parameter	Mandatory	Type	Description
job_id	No	String	ID of the task to be updated.
base_info	No	Object	Basic information body of a task. For details, see Table 7-197 .
source_endpoint	No	Array of objects	Information body of the source database. For details, see Table 7-199 .
target_endpoint	No	Array of objects	Information body of the destination database. For details, see Table 7-199 .
alarm_notify	No	Object	Information body for setting task exception notification. For details, see Table 7-206 .
speed_limit	No	Array of objects	Flow control information body. <ul style="list-style-type: none"> If you enable flow control, you can customize the maximum migration speed. If you disable flow control, the migration speed is not limited and the outbound bandwidth of the source database is maximally used, which causes read consumption on the source database accordingly. For example, if the outbound bandwidth of the source database is 100 MB/s and 80% bandwidth is used, the I/O consumption on the source database is 80 MB/s. For details, see Table 7-207 .

Parameter	Mandatory	Type	Description
user_migration	No	Object	User migration information body. For details, see Table 7-208 .
policy_config	No	Object	Policy information body. This parameter is used to configure migration and synchronization policies, including the conflict policy, DROP DATASE filtering, and object synchronization scope. For details, see Table 7-211 .
db_object	No	Object	Database object information body. This parameter is used to select databases or tables to be migrated for migration and synchronization tasks. For details, see Table 7-212 .
db_param	No	Object	Database parameter information body. For details, see Table 7-218 .
tuning_params	No	Object	Advanced setting information body. For details, see Table 7-220 .
period_order	No	Object	Yearly/Monthly information body. For details, see Table 7-221 .
node_info	No	Object	Information body of the DRS instance. For details, see Table 7-222 .

Table 7-197 Data structure description of field **base_info**

Parameter	Mandatory	Type	Description
name	No	String	<p>Task name. The task name can be 4 to 50 characters in length. It is case-insensitive and can contain only letters, digits, hyphens (-), and underscores (_).</p> <ul style="list-style-type: none"> • Minimum length: 4 • Maximum length: 50 <p>Minimum length: 4 Maximum length: 50</p>
job_type	No	String	<p>Task scenario. Values:</p> <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery. <p>Enumerated values:</p> <ul style="list-style-type: none"> • migration • sync • cloudDataGuard
multi_write	No	Boolean	<p>Whether the DR type is dual-active. Note:</p> <ul style="list-style-type: none"> • This parameter is mandatory when job_type is set to cloudDataGuard. If the DR type is dual-active, the value of multi_write is true. Otherwise, the value is false. • If job_type is set to other values, multi_write is optional.

Parameter	Mandatory	Type	Description
engine_type	No	String	<p>Engine type. The value can be:</p> <ul style="list-style-type: none"> ● oracle-to-gaussdbv5: Synchronization from Oracle to GaussDB distributed. ● redis-to-gaussredis: Migration from Redis to GeminiDB Redis. ● rediscluster-to-gaussredis: Migration from cluster Redis to GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● oracle-to-gaussdbv5 ● redis-to-gaussredis ● rediscluster-to-gaussredis
job_direction	No	String	<p>Migration direction. Values:</p> <ul style="list-style-type: none"> ● up: to-the-cloud scenarios and DR scenarios where the current cloud is the standby. ● down: out-of-cloud scenarios and DR scenarios where the current cloud is the active. ● non-dbs: self-built databases. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● up ● down ● non-dbs
task_type	No	String	<p>Migration type. Values:</p> <ul style="list-style-type: none"> ● FULL_TRANS: full migration. ● FULL_INCR_TRANS: full +incremental migration. ● INCR_TRANS: incremental migration. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● FULL_TRANS ● FULL_INCR_TRANS ● INCR_TRANS

Parameter	Mandatory	Type	Description
net_type	No	String	Network type. Values: <ul style="list-style-type: none"> • eip: public network. • vpc: VPC network. The VPC network cannot be selected in DR scenarios. • vpn: VPN or Direct Connect. Enumerated values: <ul style="list-style-type: none"> • eip • vpc • vpn
charging_mode	No	String	Billing mode. The pay-per-use billing is used by default. Values: <ul style="list-style-type: none"> • period: indicates the yearly/monthly billing. • on_demand: indicates the pay-per-use billing. Enumerated values: <ul style="list-style-type: none"> • period • on_demand
enterprise_project_id	No	String	Enterprise project ID. The default value is 0 , indicating the default enterprise project. Default value: 0
description	No	String	Task description. The task description can contain a maximum of 256 characters and cannot contain the following special characters: ! <>'&"\ Minimum length: 0 Maximum length: 256
start_time	No	String	Scheduled start time of a task.
expired_days	No	String	Number of days after which an abnormal task automatically stops. The unit is day. The value ranges from 14 to 100. If this parameter is not specified, the default value is 14 . Default value: 14

Parameter	Mandatory	Type	Description
tags	No	Array of objects	Tag information. Up to 20 tags can be added. For details, see Table 7-198 .

Table 7-198 Data structure description of field **tags**

Parameter	Mandatory	Type	Description
key	No	String	Tag key. The value can contain a maximum of 36 characters, including letters, digits, underscores (_), and hyphens (-). Minimum length: 1 Maximum length: 36
value	No	String	Tag value. The value can contain a maximum of 43 characters, including letters, digits, underscores (_), and hyphens (-). Minimum length: 1 Maximum length: 43

Table 7-199 Data structure description of fields **source_endpoint** and **target_endpoint**

Parameter	Mandatory	Type	Description
db_type	Yes	String	<p>Database type. The value can be:</p> <ul style="list-style-type: none"> • oracle: Oracle. • gaussdbv5: GaussDB distributed. • redis: Redis. • rediscluster: Cluster Redis. • gaussredis: GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> • oracle • gaussdbv5 • redis • rediscluster • gaussredis
endpoint_type	Yes	String	<p>DB instance type. Values:</p> <ul style="list-style-type: none"> • offline: indicates an on-premises database. • ecs: indicates a database built on Huawei Cloud ECSs. • cloud: indicates a Huawei cloud database. <p>Enumerated values:</p> <ul style="list-style-type: none"> • offline • ecs • cloud
endpoint_role	Yes	String	<p>DB instance role. Values:</p> <ul style="list-style-type: none"> • so: indicates the source database. • ta: indicates the destination database. <p>Enumerated values:</p> <ul style="list-style-type: none"> • so • ta
endpoint	Yes	Object	<p>Basic information body of the database.</p> <p>For details, see Table 7-200.</p>

Parameter	Mandatory	Type	Description
cloud	No	Object	Region and project where a DB instance is located. For details, see Table 7-201 .
vpc	No	Object	Information about the VPC, subnet, and security group where a DB instance resides. For details, see Table 7-202 .
config	No	Object	Basic information body of database settings. For details, see Table 7-203 .
ssl	No	Object	Information body of the database SSL certificate. For details, see Table 7-204 .
customized_dns	No	Object	Custom DNS server. For details, see Table 7-205 .

Table 7-200 Data structure description of fields **endpoint** and **source_sharding**

Parameter	Mandatory	Type	Description
id	No	String	Database information ID.

Parameter	Mandatory	Type	Description
endpoint_name	Yes	String	<p>Database scenario type. The value can be:</p> <ul style="list-style-type: none"> • oracle: indicates the on-premises Oracle database. • ecs_oracle: indicates the Oracle database built on Huawei Cloud ECSs. • cloud_gaussdbv5: indicates the Huawei Cloud distributed GaussDB database. • mysql: indicates the MySQL database built on other clouds or on-premises MySQL database. • ecs_mysql: indicates the MySQL database built on Huawei Cloud ECSs. • cloud_mysql: indicates the Huawei Cloud RDS for MySQL database. • redis: On-premises Redis database. • ecs_redis: Redis database built on Huawei Cloud ECSs. • rediscluster: On-premises cluster Redis database. • ecs_rediscluster: Cluster Redis database built on Huawei Cloud ECSs. • cloud_gaussdb_redis: Huawei Cloud GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> • oracle • ecs_oracle • cloud_gaussdbv5 • mysql • ecs_mysql • cloud_mysql • redis • ecs_redis • rediscluster

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none">ecs_redisclustercloud_gaussdb_redis

Parameter	Mandatory	Type	Description
ip	No	String	<p>Database IP address.</p> <p>Constraints:</p> <ul style="list-style-type: none"> • If an on-premises MongoDB database is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. A maximum of three IP addresses or domain names can be entered. • If a DDS instance is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. • If the database is a cluster Redis database, enter the IP addresses and port numbers of all shards in the source cluster Redis database. Use colons (:) to separate a database IP address and port number. Use commas (,) to separate multiple values. You are advised to enter the IP address of the slave node of a cluster shard. Up to 32 IP addresses or domain names can be entered. Use commas (,) to separate multiple IP addresses or domain names. <p>Example:</p> <ul style="list-style-type: none"> • MongoDB: 192.168.0.10:8080,192.168.0.11:8080,192.168.0.12:8080 • DDS: 192.168.205.130:8635,192.168.250.64:8635 • Cluster Redis: 192.168.0.1:8080,192.168.0.2:8080

Parameter	Mandatory	Type	Description
db_port	No	String	Database port. The value is an integer ranging from 1 to 65535.
db_user	Yes	String	Database username.
db_password	Yes	String	Database password.
instance_id	No	String	ID of a Huawei Cloud DB instance.
instance_name	No	String	Name of a Huawei Cloud DB instance.
db_name	No	String	Database name. For example: <ul style="list-style-type: none"> oracle: serviceName.orcl.
source_sharding	No	Array of objects	Information about the physical source database. For details, see Table 7-200 .

Table 7-201 Data structure description of field **cloud**

Parameter	Mandatory	Type	Description
region	Yes	String	Region ID. This parameter is mandatory when DB Instance Type is set to ecs (database built on Huawei Cloud ECSs) or cloud (Huawei cloud database). For details, see Regions and Endpoints . Note: If there are subprojects in a region, the region ID is a combination of the regional project ID and subproject ID, which are combined using an underscore (_).
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
az_code	No	String	Name of the AZ where the database is located.

Table 7-202 Data structure description of field **vpc**

Parameter	Mandatory	Type	Description
vpc_id	Yes	String	ID of the VPC where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. Method 2: Call the API for querying VPCs. For details, see Querying VPCs .
subnet_id	Yes	String	ID of the subnet where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and click the target subnet on the Subnets page to view the network ID on the displayed page. Method 2: Call the API for querying subnets. For details, see Querying Subnets .
security_group_id	No	String	ID of the security group where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console. Choose Access Control > Security Groups in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page. Method 2: Call the API for querying security groups. For details, see Querying Security Groups .

Table 7-203 Data structure description of field **config**

Parameter	Mandatory	Type	Description
is_target_read_only	No	Boolean	Whether the destination DB instance is set to read-only. This parameter is available only when job_direction is set to up during MySQL migration and DR. In the DR scenario, this parameter is mandatory and set to true if the current cloud is the standby in single-active DR. If this parameter is not specified, the default value is true . Default value: true
node_num	No	Integer	Number of subtasks connected to the source cluster Redis instance for data migration from cluster Redis to GeminiDB Redis. The value ranges from 1 to 16 and cannot be greater than the number of shards in the source cluster Redis instance. Set this parameter based on the scale of the source cluster Redis instance. You are advised to set one subtask to connect to four shards in the source cluster Redis instance. Minimum value: 1 Maximum value: 16 Default value: 0

Table 7-204 Data structure description of field **ssl**

Parameter	Mandatory	Type	Description
ssl_link	No	Boolean	Whether SSL is enabled. If SSL is enabled, the value of this parameter is true .
ssl_cert_name	No	String	SSL certificate name.
ssl_cert_key	No	String	SSL certificate content, which is encrypted using Base64.

Parameter	Mandatory	Type	Description
ssl_cert_check_sum	No	String	The checksum value of the SSL certificate, which is used for backend verification. This parameter is mandatory for secure connection to the source database.
ssl_cert_password	No	String	SSL certificate password. This parameter is mandatory if the certificate file name extension is .p12.

Table 7-205 Data structure description of field **customized_dns**

Parameter	Mandatory	Type	Description
is_set_dns	Yes	Boolean	Specifies whether to set your own DNS server.
set_dns_action	Yes	String	Behavior of setting your own DNS server. <ul style="list-style-type: none"> • add: Add a customized DNS server IP address. • keep: Retain the DNS server IP address. • update: Update the customized DNS server IP address. (The update takes effect when the DNS server IP address changes.) • recover: Restore the default DNS server IP address. (Restoration may cause domain name resolution failures. Exercise caution when performing this operation.) Enumerated values: <ul style="list-style-type: none"> • add • keep • update • recover
dns_ip	Yes	String	DNS server IP address. Minimum length: 0 Maximum length: 15

Table 7-206 Data structure description of field **alarm_notify**

Parameter	Mandatory	Type	Description
alarm_to_user	Yes	Boolean	Whether to notify users of alarms. Default value: false
topic_urn	No	String	SMN topic URN.
delay_time	No	Long	Delay threshold, in seconds. The value can be: <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0 NOTE <ol style="list-style-type: none"> 1. A synchronization delay indicates a time difference (in seconds) of synchronization between the source and destination database. 2. If the delay exceeds a specified value and lasts for 6 minutes, DRS will notify specified recipients. (In the early stages of an incremental migration, there is more delay because more data is waiting to be synchronized. In this situation, no notifications will be sent.) 3. This option is available only for full+incremental tasks.
rpo_delay	No	Long	RPO delay threshold, in seconds. Values: <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0 NOTE <p>If the RPO delay between the service database and the DRS instance exceeds a specified value and lasts for 6 minutes, DRS will notify specified recipients. (In the early stages of an incremental DR, there is more delay because more data is waiting to be synchronized. In this situation, no notifications will be sent.)</p>

Parameter	Mandatory	Type	Description
rto_delay	No	Long	RTO delay threshold, in seconds. Values: <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0 NOTE If the RTO delay between the DRS instance and the DR database exceeds a specified value and lasts for 6 minutes, DRS will notify specified recipients.

Table 7-207 Data structure description of field **speed_limit**

Parameter	Mandatory	Type	Description
begin	Yes	String	Start time (UTC) of flow control. The start time is an integer in hh:mm format and the minutes part is ignored. hh indicates the hour, for example, 01:00.
end	Yes	String	End time (UTC) in the format of hh:mm, for example, 15:59. The value must end with 59.
speed	Yes	String	Speed. The value ranges from 1 to 9,999, in MB/s.

Table 7-208 Data structure description of field **user_migration**

Parameter	Mandatory	Type	Description
is_migrate_user	Yes	Boolean	Whether to migrate users.

Parameter	Mandatory	Type	Description
is_set_password	Yes	Boolean	Whether to reset a unified password. Values: <ul style="list-style-type: none"> • true: Reset a unified password. • false: Do not reset a unified password. The following scenarios are supported: <ul style="list-style-type: none"> • Real-time migration: MySQL migration.
password	No	String	Unified password. This parameter is mandatory when is_set_password is set to true . The password cannot be empty.
user_list	No	Array of objects	User list in the migration objects. The following scenarios are supported: <ul style="list-style-type: none"> • Real-time migration: MySQL-to-MySQL migration and MongoDB-to-DDS migration. For details, see Table 7-209 .
role_list	No	Array of objects	User role in the migration objects. The following scenarios are supported: <ul style="list-style-type: none"> • Real-time migration: MongoDB-to-DDS migration. For details, see Table 7-210 .

Table 7-209 Data structure description of field **user_list**

Parameter	Mandatory	Type	Description
id	Yes	String	User ID.
account	Yes	String	User.
is_set_password	No	Boolean	Whether to reset the user password. The following scenarios are supported: <ul style="list-style-type: none"> • Real-time migration: MySQL migration.

Parameter	Mandatory	Type	Description
password	No	String	New password. This parameter is mandatory when is_set_password is set to true . The password cannot be empty.

Table 7-210 Data structure description of field **role_list**

Parameter	Mandatory	Type	Description
role	Yes	String	Role.

Table 7-211 Data structure description of field **policy_config**

Parameter	Mandatory	Type	Description
filter_ddl_policy	No	String	DDL filtering policy. Values: <ul style="list-style-type: none"> drop_database Scenarios: <ul style="list-style-type: none"> Real-time migration: For MySQL migration, this parameter can be set to "", indicating that DROP DATABASE is not filtered. Real-time synchronization: For MySQL synchronization, this parameter can only be set to drop_database. Enumerated values: <ul style="list-style-type: none"> drop_database

Parameter	Mandatory	Type	Description
conflict_policy	No	String	<p>Incremental conflict policy. The conflict policy refers to the conflict handling policy during incremental synchronization. By default, conflicts in the full synchronization phase are ignored. Values:</p> <ul style="list-style-type: none"> ● ignore: Ignore the conflict. The system will ignore the conflicting data and continue the subsequent synchronization process. ● stop: Report an error. The synchronization task will be stopped and fail. You can view the details in synchronization logs. ● overwrite: Overwrite the existing data with the synchronized data. Conflicting data will be overwritten. <p>Scenarios:</p> <ul style="list-style-type: none"> ● Real-time migration: Not supported. ● Real-time synchronization: Supported. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● ignore ● stop ● overwrite

Parameter	Mandatory	Type	Description
index_trans	No	Boolean	<p>Object synchronization scope: indicates whether to synchronize normal indexes. By default, DRS synchronizes the primary key or unique index. A normal index refers to an index other than the primary key or unique index. Values:</p> <ul style="list-style-type: none"> • true: All indexes will be synchronized. • false: Only primary key or unique indexes are synchronized. <p>Default value: true</p>
ddl_trans	No	Boolean	<p>Object synchronization scope: indicates whether to synchronize DDLs in the incremental phase. Values:</p> <ul style="list-style-type: none"> • true: DDLs are synchronized in the incremental phase. • false: DDLs are not synchronized in the incremental phase. <p>Default value: true</p>
data_sync_topology_type	No	String	<p>Data synchronization topology. Data synchronization supports multiple synchronization topologies. You can plan your synchronization instances based on service requirements. Values:</p> <ul style="list-style-type: none"> • one2one: one-to-one. • one2many: one-to-many. • many2one: many-to-one. <p>Default value: one2one</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • one2one • one2many • many2one

Parameter	Mandatory	Type	Description
support_ddl_info	No	String	<p>DDLs to be synchronized.</p> <p>Values:</p> <ul style="list-style-type: none"> • CREATE_TABLE: Create a table. • ADD_COLUMN: Add a column. • MODIFY_COLUMN: Modify column attribute. • CHANGE_COLUMN: Change column attribute. • DROP_INDEX: Delete an index. • ADD_INDEX: Add an index. • CREATE_INDEX: Create an index. • RENAME_INDEX: Rename an index. <p>Note:</p> <ul style="list-style-type: none"> • In one-to-one and one-to-many scenarios, if the DDL usage of the source and destination databases must be consistent, high-risk DDLs must be synchronized. • In one-to-one and one-to-many scenarios, if you do not want a high-risk DDL to be performed in the destination, deselect the high-risk DDL to protect destination data. However, filtering DDL may cause synchronization to fail, for example, column deletion. • In many-to-one data synchronization tasks, it is recommended that only the ADD COLUMN operation is synchronized, or tasks may fail or data may be inconsistent due to changes in destination tables. Typical failure scenarios are as follows:

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> - Synchronizing the TRUNCATE operation clears all destination data. - Synchronizing the CREATE INDEX operation locks the destination table. - Synchronizing the RENAME operation causes other task failure because the destination table cannot be found. - Synchronizing the MODIFY COLUMN operation causes other task failure due to incompatible data types. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CREATE_TABLE ● ADD_COLUMN ● MODIFY_COLUMN ● CHANGE_COLUMN ● DROP_INDEX ● ADD_INDEX ● CREATE_INDEX ● RENAME_INDEX
sync_type_policy	No	String	<p>Synchronization object type.</p> <p>Values:</p> <ul style="list-style-type: none"> ● supportAllType: All types. ● tableData: Data. ● tableStructure: Table structure. ● constraintData: Index. <p>NOTE Except supportAllType, other types can be specified together, for example, tableData,tableStructure.</p>
increment_read_mode	No	String	<p>Incremental log reading mode for synchronization from Oracle to GaussDB: logminer or xstream.</p>

Parameter	Mandatory	Type	Description
dml_types	No	String	DML synchronization type. The value can be: <ul style="list-style-type: none"> • i: INSERT • u: UPDATE • d: DELETE

Table 7-212 Data structure description of field **db_object**

Parameter	Mandatory	Type	Description
object_scope	Yes	String	Migration or synchronization object scope. Values: <ul style="list-style-type: none"> • all: Migrate or synchronize all objects. • database: database-level migration or synchronization. • table: table-level migration or synchronization. Enumerated values: <ul style="list-style-type: none"> • all • database • table
target_root_db	No	Object	Destination database for database object migration or synchronization. This parameter is mandatory for database synchronization from Layer 2 to Layer 3. For details, see Table 7-213 .
object_info	No	Map<String, DatabaseObject>	Object information for migration or synchronization. If object_scope is set to all , leave this parameter blank. If object_scope is set to database or table , this parameter is mandatory. For details, see Table 7-214 .

Table 7-213 Data structure description of field **target_root_db**

Parameter	Mandatory	Type	Description
db_name	No	String	Database name.
db_encoding	No	String	Encoding format. The default value is UTF-8 .

Table 7-214 Data structure description of field **object_info**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the database in real-time synchronization. Values: config : This parameter is mandatory only when the database is used as an association database in advanced settings for data filtering. In this case, the database and its schemas and tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in schemas and tables . NOTE To synchronize the database-level object, set sync_type to config for the lower-level object. Enumerated values: <ul style="list-style-type: none"> • config
name	No	String	Name of the database in the destination database (database name mapping).

Parameter	Mandatory	Type	Description
all	No	Boolean	<p>Whether to migrate or synchronize the entire database.</p> <p>NOTE</p> <ul style="list-style-type: none"> • If data filtering, column filtering, and column mapping are required for schemas, tables, and columns in the database, set this parameter to false. Otherwise, set this parameter to true. • If additional columns are required for tables in the database, set this parameter to true and enter additional column information in columns of table-level objects. • If the table columns in the database are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
schemas	No	Map<String,SchemaObject>	<p>Schema to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-215.</p>
tables	No	Map<String,TableObject>	<p>Table to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-216.</p>
total_table_number	No	Integer	<p>Number of tables in the database. If the number of tables exceeds the threshold, this parameter is not displayed.</p>
is_synchronized	No	Boolean	<p>Whether synchronization has been performed.</p>

Table 7-215 Data structure description of field **schemas**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the schema in real-time synchronization. Values: config : This parameter is mandatory only when the schema is used as an association schema in advanced settings for data filtering. In this case, the schema and its tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in tables . NOTE To synchronize the schema-level object, set sync_type to config for the lower-level object.
name	No	String	Name of the schema in the destination database (schema name mapping).
all	No	Boolean	Whether to migrate or synchronize the entire schema. NOTE <ul style="list-style-type: none"> If data filtering, column filtering, and column mapping are required for tables and columns in the schema, set this parameter to false. Otherwise, set this parameter to true. If additional columns are required for tables in the schema, set this parameter to true and enter additional column information in columns of table-level objects. If the table columns in the schema are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.

Parameter	Mandatory	Type	Description
tables	No	Map<String, TableObject >	Table to be migrated or synchronized. This parameter is mandatory when all is set to false . For details, see Table 7-216 .

Table 7-216 Data structure description of field **tables**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the table in real-time synchronization. Values: config : This parameter is mandatory only when the table is used as an association table in advanced settings for data filtering. In this case, the table and its columns will not be synchronized to the destination database. The name , all , filtered , and filter_conditions parameters do not take effect. Enter the associated objects in columns and the configuration criteria in advanced settings for data filtering in config_conditions . NOTE To synchronize the table-level object, set sync_type to config for the lower-level object.
type	No	String	Object type. Values: <ul style="list-style-type: none"> ● table: indicates a table. ● view: indicates a view. ● procedure: indicates a stored procedure. Enumerated values: <ul style="list-style-type: none"> ● table ● view ● procedure
name	No	String	Name of the table in the destination database (table name mapping).

Parameter	Mandatory	Type	Description
all	No	Boolean	<p>Whether to migrate or synchronize the entire table.</p> <p>NOTE</p> <ul style="list-style-type: none"> If column filtering and column mapping are not required for the table, set this parameter to true. Otherwise, set this parameter to false. If additional columns are required for the table, set this parameter to true and enter additional column information in columns. If the table columns are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
db_alias_name	No	String	Mapping of database names at the table level in the one-to-many scenario.
schema_alias_name	No	String	Mapping of schema names at the table level in the one-to-many scenario.
filtered	No	Boolean	Whether to filter data in the table.
filter_conditions	No	Array of strings	<p>Filtering criteria for the table data. The processing rule value is a SQL statement. The value contains a maximum of 512 characters.</p> <p>Minimum length: 0 Maximum length: 512</p>

Parameter	Mandatory	Type	Description
config_conditions	No	Array of strings	Configuration criteria in advanced settings for data filtering of the table. This parameter is mandatory when the table is used as an association table for query. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512
is_synchronized	No	Boolean	Whether synchronization has been performed.
columns	No	Map<String,ColumnObject>	Columns to be synchronized, mapped, filtered, or added. This parameter is mandatory when column filtering, column mapping, and additional columns are required. This parameter takes effect only in real-time synchronization tasks. This parameter is mandatory when all is set to false . For details, see Table 7-217 .

Table 7-217 Data structure description of field columns

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the column in real-time synchronization. Values: config : This parameter is mandatory only when the column is used as an association column in advanced settings for data filtering. If the column is a primary key column or index column required for optimizing the query, primary_key_for_data_filtering or index_for_data_filtering is mandatory. NOTE Whether to synchronize the column to the destination database depends on the filtered parameter, which is different from the database, schema, and table-level synchronization.
primary_key_for_data_filtering	No	String	Whether the column is a primary key column in advanced settings for data filtering. If the column is a primary key column, set this parameter to the column name. Otherwise, leave this parameter blank.
index_for_data_filtering	No	String	Whether the column is an index column required for optimizing the query. The index is added to the cached data. It does not affect the source table. If the column is an index column in advanced settings for data filtering, this parameter is mandatory. Otherwise, leave this parameter blank.

Parameter	Mandatory	Type	Description
name	No	String	Name of the column in the destination database (column name mapping). If the column is an additional column, the value must be the same as the column name in the table-level object.
type	No	String	Data type of the column. Column filtering: Enter the data type of the source column. Additional column adding: Enter the data type of the new column. The values and constraints vary depending on the operation type. Values: <ul style="list-style-type: none"> • Default: The value can be int, long, varchar(256), datetime, or timestamp. • create_time: The value can be long, datetime, or timestamp. • update_time: The value can be long, datetime, or timestamp. • Expression: The value can be varchar (256), and the column value must be concat(_current_database, '@', _current_table). • serverName@database@table: The value can be varchar(256).
primary_key_filter_or_column_filtering	No	String	Whether the column is a primary key column in column mapping. If the column is a primary key column, set this parameter to PRI . Otherwise, leave this parameter blank.

Parameter	Mandatory	Type	Description
filtered	No	Boolean	Whether the column is filtered out. This parameter cannot be used together with the additional parameter. Values: <ul style="list-style-type: none"> • true: indicates that the column will be synchronized. • false: indicates that the column is filtered out and will not be synchronized.
additional	No	Boolean	Whether the column is an additional column. If the column is an additional column, the value of name must be the same as the column name in the table-level object and cannot be used together with the filtered parameter.
operation_type	No	String	Operation type. The new column is filled with a specific operation type. Values: <ul style="list-style-type: none"> • Default: "operation_type":"ADDITIONALCOLUMN,default_value" • create_time: "operation_type":"ADDITIONALCOLUMN,create_time" • update_time: "operation_type":"ADDITIONALCOLUMN,update_time" • Expression: "operation_type":"ADDITIONALCOLUMN,expression" • serverName@database@table: "operation_type":"ADDITIONALCOLUMN,server_database_table"

Parameter	Mandatory	Type	Description
value	No	String	Value of the additional column. Note: <ul style="list-style-type: none"> This parameter is mandatory only when operation type is set to Default or serverName@database@table. When operation type is set to Expression, this parameter has a fixed value of concat(_current_database, '@', _current_table).

Table 7-218 Data structure description of field **db_param**

Parameter	Mandatory	Type	Description
common	No	Array of objects	Common parameter. Only the values of destination database parameters whose comparison results are inconsistent can be changed. For details, see Table 7-219 .
performance	No	Array of objects	Performance parameter. If the comparison results are consistent, you can also change the values of destination database parameters. For details, see Table 7-219 .

Table 7-219 Data structure description of fields **common** and **performance**

Parameter	Mandatory	Type	Description
key	Yes	String	Database parameter name.
target_value	Yes	String	Parameter value of the destination database.

Table 7-220 Data structure description of field **tuning_params**

Parameter	Mandatory	Type	Description
full_sync	No	Map<String,String>	Names and values of full migration parameters.
incre_capture	Yes	Map<String,String>	Names and values of incremental capture parameters.
incre_apply	Yes	Map<String,String>	Names and values of incremental replay parameters.
incre_relay	No	Map<String,String>	Names and values of incremental log extraction parameters.
recovery	No	Boolean	Whether to restore to the default value.

Table 7-221 Data structure description of field **period_order**

Parameter	Mandatory	Type	Description
period_type	Yes	Integer	Subscription period type. Values: <ul style="list-style-type: none"> • 2: indicates that the service is subscribed by month. • 3: indicates that the service is subscribed by year. Default value: 3 Enumerated values: <ul style="list-style-type: none"> • 2 • 3
period_num	Yes	Integer	Number of subscription periods. This parameter depends on the value of period_type . For example: <ul style="list-style-type: none"> • When period_type is set to 2, the value 1 indicates one month. • When period_type is set to 3, the value 1 indicates one year.

Parameter	Mandatory	Type	Description
is_auto_renew	No	Integer	<p>Whether auto renewal is enabled. Values:</p> <ul style="list-style-type: none"> • 0: indicates that auto renewal is disabled. This is the default value. You need to pay manually. • 1: indicates that auto renewal is enabled. <p>Default value: 0</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • 0 • 1

Table 7-222 Data structure description of field **node_info**

Parameter	Mandatory	Type	Description
spec	Yes	Object	<p>Information body of DRS instance specifications.</p> <p>For details, see Table 7-223.</p>
vpc	No	Object	<p>Information body of DRS instance VPC. This parameter is mandatory for self-built databases.</p> <p>For details, see Table 7-224.</p>
base_info	No	Object	<p>Information body of DRS instance VPC. This parameter is mandatory for self-built databases.</p> <p>For details, see Table 7-225.</p>

Table 7-223 Data structure description of field **spec**

Parameter	Mandatory	Type	Description
node_type	Yes	String	Specification code. Values: <ul style="list-style-type: none"> • micro: minimum specifications. • small: small specifications. • medium: medium specifications. • high: large specifications. Enumerated values: <ul style="list-style-type: none"> • micro • small • medium • high

Table 7-224 Data structure description of field **vpc**

Parameter	Mandatory	Type	Description
vpc_id	Yes	String	ID of the VPC where the DRS instance is located.
subnet_id	Yes	String	ID of the subnet where the DRS instance is located.

Parameter	Mandatory	Type	Description
custom_node_ip	No	String	<p>IP address of the DRS instance to be created. Use commas (,) to separate multiple values. Only IPv4 addresses are supported. To obtain the IP address, perform the following steps:</p> <ul style="list-style-type: none"> Method 1: Log in to the VPC console and click the target subnet on the Subnets page. View the subnet CIDR block and select an IP address that is not in use. Method 2: Call the API for querying private IP addresses. For details, see "Querying Private IP Addresses". Select a private IP address whose device_owner is left blank. Example: 192.168.0.10,192.168.0.11
security_group_id	No	String	ID of the security group where the DRS instance is located.

Table 7-225 Data structure description of field **base_info**

Parameter	Mandatory	Type	Description
instance_type	Yes	String	<p>DB instance type. The value can be:</p> <ul style="list-style-type: none"> single: single instance. ha: primary/standby instance. <p>Enumerated values:</p> <ul style="list-style-type: none"> single ha

Parameter	Mandatory	Type	Description
arch	Yes	String	CPU architecture. The value can be: <ul style="list-style-type: none"> • x86 • arm Enumerated values: <ul style="list-style-type: none"> • x86 • arm
availability_zone	Yes	String	AZ ID. If the task instance is not a single instance, you need to specify an AZ for each node of the instance and separate the AZs with commas (.). Example: <ul style="list-style-type: none"> • If instance_type is set to single, the value is cn-north-4a. • If instance_type is set to ha, the value is cn-north-4a,cn-north-4b.
status	No	String	Status.
role	No	String	Primary/Standby role of a task.

Response Parameters

Status code: 202

Table 7-226 Response body parameters

Parameter	Type	Description
jobs	Array of objects	Response body for updating details about the tasks created asynchronously in batches with a specified ID. For details, see Table 7-227 .

Table 7-227 Data structure description of field **jobs**

Parameter	Type	Description
id	String	Task ID.
name	String	Task name.

Parameter	Type	Description
status	String	Operation result.
error_code	String	Error code.
error_msg	String	Error message.

Status code: 400

Table 7-228 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Updating details about the tasks created asynchronously in batches with a specified ID, in which **task_type** is set to **FULL_INCR_TRANS** and **net_type** is set to **eip**

<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/batch-async-jobs/bd4193aa-072d-4ce6-beec-adffc7252341>

```
{
  "jobs": [ {
    "type": "all",
    "params": {
      "job_id": "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r",
      "base_info": {
        "name": "DRS-1234",
        "job_type": "sync",
        "engine_type": "oracle-to-gaussdbv5",
        "job_direction": "up",
        "task_type": "FULL_INCR_TRANS",
        "net_type": "eip",
        "charging_mode": "on_demand",
        "enterprise_project_id": "0",
        "description": "",
        "expired_days": "14",
        "tags": [ {
          "key": "test",
          "value": "test"
        } ]
      }
    }
  },
  "source_endpoint": [ {
    "db_type": "oracle",
    "endpoint_type": "offline",
    "endpoint_role": "so",
```

```
"endpoint" : {
  "endpoint_name" : "oracle",
  "ip" : "10.154.217.239",
  "db_port" : "1521",
  "db_user" : "ORACLE_USER",
  "db_name" : "serviceName.orcl",
  "db_password" : "*****"
},
"ssl" : {
  "ssl_link" : false
}
}],
"target_endpoint" : [ {
  "db_type" : "gaussdbv5",
  "endpoint_type" : "cloud",
  "endpoint_role" : "ta",
  "endpoint" : {
    "endpoint_name" : "cloud_gaussdbv5",
    "instance_id" : "c2c7579bc09c490b9d8009db715aeb0ain14",
    "db_user" : "root",
    "db_password" : "*****"
  },
  "cloud" : {
    "region" : "cn-north-4",
    "project_id" : "9dc8c0f3f74c4dbb23c29cf0318ee561",
    "az_code" : "cn-north-4a,cn-north-4g,cn-north-4c"
  },
  "vpc" : {
    "vpc_id" : "2cb5d364-ae63-4fbb-85b7-7d59f4a88f8f",
    "subnet_id" : "2cb54324-ae63-4fbb-85b7-7d59f4a88f8f",
    "security_group_id" : "039a3s89-665a-43e2-9b4f-bda7d9ee148d"
  }
}],
"alarm_notify" : {
  "alarm_to_user" : true,
  "topic_urn" : "urn:smn:cn-north-4:f2c2468c3ee7410c862a461ca073d2f2:test",
  "delay_time" : 60
},
"speed_limit" : [ {
  "begin" : "16:00",
  "end" : "15:59",
  "speed" : "10"
}],
"policy_config" : {
  "ddl_trans" : false
},
"db_object" : {
  "object_scope" : "table",
  "target_root_db" : {
    "db_name" : "target_db_name",
    "db_encoding" : "utf8"
  },
  "object_info" : {
    "source_db1" : {
      "name" : "source_db1",
      "all" : false,
      "tables" : {
        "source_tb1" : {
          "type" : "table",
          "name" : "source_tb1",
          "all" : true
        },
        "source_tb2" : {
          "type" : "table",
          "name" : "source_tb2",
          "all" : true
        }
      }
    }
  }
}
```

```
    }
  },
  "node_info": {
    "spec": {
      "node_type": "medium"
    }
  }
}, {
  "type": "endpoint",
  "params": {
    "job_id": "dc6016cf-f3b6-4c2d-b4d7-5084b0fjb20r",
    "source_endpoint": [ {
      "db_type": "oracle",
      "endpoint_type": "offline",
      "endpoint_role": "so",
      "endpoint": {
        "endpoint_name": "oracle",
        "ip": "10.154.227.134",
        "db_port": "1521",
        "db_user": "ORACLE_USER",
        "db_name": "serviceName.orcl",
        "db_password": "*****"
      }
    },
    "ssl": {
      "ssl_link": false
    }
  }
],
  "target_endpoint": [ {
    "db_type": "gaussdbv5",
    "endpoint_type": "cloud",
    "endpoint_role": "ta",
    "endpoint": {
      "id": "f59e6118-da89-4fdb-9b98-65f56709928a",
      "endpoint_name": "cloud_gaussdbv5",
      "instance_id": "c2c7579bc09c490b9d8009db715aeb0ain14",
      "db_user": "root",
      "db_password": "*****"
    },
    "cloud": {
      "region": "cn-north-4",
      "project_id": "9dc8c0f3f74c4dbb23c29cf0318ee561",
      "az_code": "cn-north-4a,cn-north-4g,cn-north-4c"
    },
    "vpc": {
      "vpc_id": "2cb5d364-ae63-4fbb-85b7-7d59f4a88f8f",
      "subnet_id": "2cb54324-ae63-4fbb-85b7-7d59f4a88f8f",
      "security_group_id": "039a3s89-665a-43e2-9b4f-bda7d9ee148d"
    },
    "ssl": {
      "ssl_link": false
    }
  }
]
}
}
}
```

Example Response

Status code: 202

Accepted

```
{
  "jobs": [ {
    "id": "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r",
    "name": "DRS-1234",
    "status": "Success"
  }, {
```

```

    "id" : "dc6016cf-f3b6-4c2d-b4d7-5084b0fjb20r",
    "name" : "DRS-2345",
    "status" : "Failed",
    "error_code" : "DRS.10000010",
    "error_msg" : "Job does not exist, please check job ID"
  }
}

```

Status code: 400

Bad Request

```

{
  "error_code" : "DRS.10000001",
  "error_msg" : "Failed."
}

```

Status Code

Status Code	Description
202	Accepted
400	Bad Request

Error Code

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

7.3.6 Downloading the Task Import Template

Function

This API is used to download the task import template.

Constraints

This API supports only MySQL migration and synchronization tasks.

URI

GET /v5/{project_id}/jobs/template

Table 7-229 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 7-230 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 400

Table 7-231 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Obtaining the task import template

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/template
```

Example Response

Status code: 200

The response body is in the file stream format, and the downloaded file is in the ZIP format.

Status code: 400

Bad Request

```
{  
  "error_code" : "DRS.10030009",  
  "error_msg" : "Download template file failed."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.3.7 Importing Tasks in Batches

Function

This API is used to import the task template to create tasks in batches.

Constraints

This API supports only MySQL migration and synchronization tasks.

URI

POST /v5/{project_id}/jobs/template

Table 7-232 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 7-233 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value multipart/form-data . For APIs used to upload objects or images, the value varies depending on the flow type. Default value: multipart/form-data
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Table 7-234 FormData parameter

Parameter	Mandatory	Type	Description
file	Yes	File	Template file to be uploaded.

Response Parameters

Status code: 200

Table 7-235 Response body parameters

Parameter	Type	Description
async_job_id	String	ID of the tasks created in batches by importing a template.
import_error_messages	Array of objects	Error message displayed for an import failure. For details, see Table 7-236 .
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Table 7-236 Data structure description of field **import_error_messages**

Parameter	Type	Description
sheet_name	String	Sheet name.
row_num	String	Error row number.
value	String	Value in the value column of the error row.
error_message	String	Error message.

Example Request

Importing the task template to create tasks in batches

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/template
```

Example Response

Status code: 200

OK

```
{
  "async_job_id": "dc6016cf-f3b6-4c2d-b4d7-5084b0fdf456"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.10120001",
  "error_msg": "Failed to parse the imported file"
  "import_error_messages": [
    {
      "sheet_name": "sheet0",
      "row_num": "10",
      "value": "test",
      "error_message": "base_info.tags parse object failed."
    }
  ]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.4 Database Object Configuration

7.4.1 Submitting the Query of Database Object Information

Function

This API is used to submit the query of database object information. Example:

- If **type** is set to **source**, table information in the source database is queried.
- If table information in the source database changes, set **type** to **source** and **is_refresh** to **true**.
- If the volume of the database table data that has been synchronized to the destination database is too large and data needs to be loaded to the cache, set **type** to **synchronized**.

Use the new API in [Submitting the Query of Database Object Information](#) for query.

Constraints

- This API supports only the synchronization scenarios from Oracle-> GaussDB distributed, from MySQL to Kafka, and from GaussDB(for MySQL) to Kafka.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

POST /v5/{project_id}/jobs/{job_id}/db-objects/collect

Table 7-237 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-238 Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.
limit	No	Integer	Number of items displayed per page.
type	Yes	String	Type of the object information to be queried. Values: <ul style="list-style-type: none">• source: Query information about objects in the source database.• modified: Query information about the selected objects that are not delivered.• synchronized: Query information about synchronized (delivered) objects. This function is used when a task is in the full or incremental phase.
is_refresh	No	Boolean	Whether to forcibly refresh the query. Values: <ul style="list-style-type: none">• true: indicating that data is queried from the source database again.• false: indicating that data is queried from the cache.

Parameter	Mandatory	Type	Description
db_names	No	Array	A specified database.

Request Parameters

Table 7-239 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 202

Table 7-240 Response body parameters

Parameter	Type	Description
id	String	Query result ID.

Parameter	Type	Description
status	String	Query status. Enumerated values: <ul style="list-style-type: none"> ● pending ● failed ● success
job_id	String	Task ID.

Status code: 400

Table 7-241 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying information about the synchronized objects

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/db-objects/collect?type=synchronized
```

Example Response

Status code: 202

OK

```
{
  "id" : "036ceb63-51f8-43fb-9164-82c17b2eadbc",
  "status" : "pending",
  "job_id" : "2fccbe0d-4e6b-4957-981a-edca4e2jb201"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.1000010",
  "error_msg" : "Job does not exist, please check job ID."
}
```

Status Code

Status Code	Description
202	OK
400	Bad Request

Error Code

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

7.4.2 Submitting the Query of Database Object Information

Function

This API is used to submit the query of database object information. Example:

- If **type** is set to **source**, table information in the source database is queried.
- If table information in the source database changes, set **type** to **source** and **is_refresh** to **true**.
- If the volume of the database table data that has been synchronized to the destination database is too large and data needs to be loaded to the cache, set **type** to **synchronized**.

URI

POST /v5.1/{project_id}/jobs/{job_id}/db-objects/collect

Table 7-242 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-243 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-244 Request body parameters

Parameter	Mandatory	Type	Description
db_names	No	Array of strings	A specified database.

Parameter	Mandatory	Type	Description
type	Yes	String	Type of the object information to be queried. Values: <ul style="list-style-type: none"> • source: Query information about objects in the source database. • modified: Query information about the selected objects that are not delivered. • synchronized: Query information about synchronized (delivered) objects. This function is used when a task is in the full or incremental phase.
is_refresh	No	String	Whether to forcibly refresh the query. Values: <ul style="list-style-type: none"> • true: indicating that data is queried from the source database again. • false: indicating that data is queried from the cache.

Response Parameters

Status code: 202

Table 7-245 Response body parameters

Parameter	Type	Description
id	String	Query result ID.
status	String	Query status. Enumerated values: <ul style="list-style-type: none"> • pending • failed • success
job_id	String	Task ID.

Status code: 400

Table 7-246 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying information about source database objects

```
https://{endpoint}/v5.1/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/db-objects
{
  "type" : "source"
}
```

Example Response

Status code: 202

OK

```
{
  "id" : "0eacda0b-9422-4535-8b62-537d1833638b",
  "status" : "pending",
  "job_id" : "2fccbe0d-4e6b-4957-981a-edca4e2jb201"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10000010",
  "error_msg" : "Job does not exist, please check job ID."
}
```

Status Code

Status Code	Description
202	OK
400	Bad Request

Error Code

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

7.4.3 Obtaining the Result of Querying Database Object Information

Function

This API is used to obtain the result of querying database object information.

Constraints

- This API supports only the synchronization scenarios from Oracle-> GaussDB distributed, from MySQL to Kafka, and from GaussDB(for MySQL) to Kafka.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs/{job_id}/db-objects/collection-status

Table 7-247 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-248 Query parameters

Parameter	Mandatory	Type	Description
query_id	Yes	String	ID of the object information query, that is, the ID returned by the API for submitting the query of database object information.

Request Parameters

Table 7-249 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type.
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. The token is the value of X-Subject-Token in the response header.
X-Language	No	String	Request language type.

Response Parameters

Status code: 200

Table 7-250 Response body parameters

Parameter	Type	Description
object_scope	String	Type of the database in real-time synchronization.
target_root_db	Object	Destination database information for database object migration or synchronization. This parameter is mandatory for database synchronization from Layer 2 to Layer 3. For details, see Table 7-251 .
object_info	Map<String, DatabaseObject>	Migration or synchronization object information. For details, see Table 7-252 .
max_table_num	Integer	Threshold of the number of tables in a database.

Parameter	Type	Description
status	String	Status of submitting the query of database object information. Enumerated values: <ul style="list-style-type: none"> • success • failed • pending
id	String	Task ID.

Table 7-251 Data structure description of field **target_root_db**

Parameter	Type	Description
db_name	String	Database name.
db_encoding	String	Encoding format. The default value is UTF-8 .

Table 7-252 Data structure description of field **object_info**

Parameter	Type	Description
sync_type	String	Type of the database in real-time synchronization. Values: config : This parameter is mandatory only when the database is used as an association database in advanced settings for data filtering. In this case, the database and its schemas and tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in schemas and tables . NOTE To synchronize the database-level object, set sync_type to config for the lower-level object. Enumerated values: <ul style="list-style-type: none"> • config
name	String	Name of the database in the destination database (database name mapping).

Parameter	Type	Description
all	Boolean	<p>Whether to migrate or synchronize the entire database.</p> <p>NOTE</p> <ul style="list-style-type: none"> If data filtering, column filtering, and column mapping are required for schemas, tables, and columns in the database, set this parameter to false. Otherwise, set this parameter to true. If additional columns are required for tables in the database, set this parameter to true and enter additional column information in columns of table-level objects. If the table columns in the database are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
schemas	Map<String, SchemaObject >	<p>Schema to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-253.</p>
tables	Map<String, TableObject >	<p>Table to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-254.</p>
total_table_number	Integer	<p>Number of tables in the database. If the number of tables exceeds the threshold, this parameter is not displayed.</p>
is_synchronized	Boolean	<p>Whether synchronization has been performed.</p>

Table 7-253 Data structure description of field **schemas**

Parameter	Type	Description
sync_type	String	Type of the schema in real-time synchronization. Values: config : This parameter is mandatory only when the schema is used as an association schema in advanced settings for data filtering. In this case, the schema and its tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in tables . NOTE To synchronize the schema-level object, set sync_type to config for the lower-level object.
name	String	Name of the schema in the destination database (schema name mapping).
all	Boolean	Whether to migrate or synchronize the entire schema. NOTE <ul style="list-style-type: none"> If data filtering, column filtering, and column mapping are required for tables and columns in the schema, set this parameter to false. Otherwise, set this parameter to true. If additional columns are required for tables in the schema, set this parameter to true and enter additional column information in columns of table-level objects. If the table columns in the schema are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
tables	Map<String, TableObject >	Table to be migrated or synchronized. This parameter is mandatory when all is set to false . For details, see Table 7-254 .

Table 7-254 Data structure description of field **tables**

Parameter	Type	Description
sync_type	String	Type of the table in real-time synchronization. Values: config : This parameter is mandatory only when the table is used as an association table in advanced settings for data filtering. In this case, the table and its columns will not be synchronized to the destination database. The name , all , filtered , and filter_conditions parameters do not take effect. Enter the associated objects in columns and the configuration criteria in advanced settings for data filtering in config_conditions . NOTE To synchronize the table-level object, set sync_type to config for the lower-level object.
type	String	Object type. Values: <ul style="list-style-type: none"> ● table: indicates a table. ● view: indicates a view. ● procedure: indicates a stored procedure. Enumerated values: <ul style="list-style-type: none"> ● table ● view ● procedure
name	String	Name of the table in the destination database (table name mapping).
all	Boolean	Whether to migrate or synchronize the entire table. NOTE <ul style="list-style-type: none"> ● If column filtering and column mapping are not required for the table, set this parameter to true. Otherwise, set this parameter to false. ● If additional columns are required for the table, set this parameter to true and enter additional column information in columns. ● If the table columns are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
db_alias_name	String	Mapping of database names at the table level in the one-to-many scenario.
schema_alias_name	String	Mapping of schema names at the table level in the one-to-many scenario.

Parameter	Type	Description
filtered	Boolean	Whether to filter data in the table.
filter_conditions	Array of strings	Filtering criteria for the table data. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512
config_conditions	Array of strings	Configuration criteria in advanced settings for data filtering of the table. This parameter is mandatory when the table is used as an association table for query. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512
is_synchronized	Boolean	Whether synchronization has been performed.
columns	Map<String, ColumnObject>	Columns to be synchronized, mapped, filtered, or added. This parameter is mandatory when column filtering, column mapping, and additional columns are required. This parameter takes effect only in real-time synchronization tasks. This parameter is mandatory when all is set to false . For details, see Table 7-255 .

Table 7-255 Data structure description of field **columns**

Parameter	Type	Description
sync_type	String	Type of the column in real-time synchronization. Values: config : This parameter is mandatory only when the column is used as an association column in advanced settings for data filtering. If the column is a primary key column or index column required for optimizing the query, primary_key_for_data_filtering or index_for_data_filtering is mandatory. NOTE Whether to synchronize the column to the destination database depends on the filtered parameter, which is different from the database, schema, and table-level synchronization.

Parameter	Type	Description
primary_key_filtering	String	Whether the column is a primary key column in advanced settings for data filtering. If the column is a primary key column, set this parameter to the column name. Otherwise, leave this parameter blank.
index_for_data_filtering	String	Whether the column is an index column required for optimizing the query. The index is added to the cached data. It does not affect the source table. If the column is an index column in advanced settings for data filtering, this parameter is mandatory. Otherwise, leave this parameter blank.
name	String	Name of the column in the destination database (column name mapping). If the column is an additional column, the value must be the same as the column name in the table-level object.
type	String	Data type of the column. Column filtering: Enter the data type of the source column. Additional column adding: Enter the data type of the new column. The values and constraints vary depending on the operation type. Values: <ul style="list-style-type: none"> • Default: The value can be int, long, varchar(256), datetime, or timestamp. • create_time: The value can be long, datetime, or timestamp. • update_time: The value can be long, datetime, or timestamp. • Expression: The value can be varchar(256), and the column value must be concat(__current_database, '@', __current_table). • serverName@database@table: The value can be varchar(256).
primary_key_filtering	String	Whether the column is a primary key column in column mapping. If the column is a primary key column, set this parameter to PRI . Otherwise, leave this parameter blank.

Parameter	Type	Description
filtered	Boolean	Whether the column is filtered out. This parameter cannot be used together with the additional parameter. Values: <ul style="list-style-type: none"> • true: indicates that the column will be synchronized. • false: indicates that the column is filtered out and will not be synchronized.
additional	Boolean	Whether the column is an additional column. If the column is an additional column, the value of name must be the same as the column name in the table-level object and cannot be used together with the filtered parameter.
operation_type	String	Operation type. The new column is filled with a specific operation type. Values: <ul style="list-style-type: none"> • Default: "operation_type":"ADDITIONALCOLUMN,default_value" • create_time: "operation_type":"ADDITIONALCOLUMN,create_time" • update_time: "operation_type":"ADDITIONALCOLUMN,update_time" • Expression: "operation_type":"ADDITIONALCOLUMN,expression" • serverName@database@table: "operation_type":"ADDITIONALCOLUMN,server_database_table"
value	String	Value of the additional column. Note: <ul style="list-style-type: none"> • This parameter is mandatory only when operation type is set to Default or serverName@database@table. • When operation type is set to Expression, this parameter has a fixed value of concat(__current_database, '@', __current_table).

Example Request

Obtaining the result of querying database object information

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/db-objects/collection-status?query_id=0eacda0b-9422-4535-8b62-537d1833638b
```

Example Response

Status code: 200

OK

```
{
  "object_scope": "table",
  "target_root_db": {
    "db_name": "mytest",
    "db_encoding": "utf8"
  },
  "object_info": {
    "TEST": {
      "name": "TEST",
      "tables": {
        "TBL_2": {
          "name": "TBL_2",
          "type": "table",
          "all": true,
          "is_synchronized": true
        }
      }
    },
    "is_synchronized": true,
    "total_table_num": 1
  }
},
"max_table_num": 50000,
"id": "0eacda0b-9422-4535-8b62-537d1833638b",
"status": "success"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.10030014",
  "error_msg": "Firstly, please the query object info."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.4.4 Querying Database Object Information

Function

This API is used to query database object information. Use the new API in [Querying Database Object Information](#) for query.

Constraints

- This API supports only the synchronization scenarios from Oracle-> GaussDB distributed, from MySQL to Kafka, and from GaussDB(for MySQL) to Kafka.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs/{job_id}/db-objects

Table 7-256 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-257 Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.
limit	No	Integer	Number of items displayed per page.
type	Yes	String	Type of the object information to be queried. Values: <ul style="list-style-type: none">• source: Query information about objects in the source database.• modified: Query information about the selected objects that are not delivered or synchronized.• synchronized: Query information about synchronized (delivered) objects.
db_names	No	Array	A specified database.

Request Parameters

Table 7-258 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-259 Response body parameters

Parameter	Type	Description
object_scope	String	Type of the database in real-time synchronization.
target_root_db	Object	Destination database information for database object migration or synchronization. This parameter is mandatory for database synchronization from Layer 2 to Layer 3. For details, see Table 7-260 .

Parameter	Type	Description
object_info	Map<String, DatabaseObject>	Migration or synchronization object information. For details, see Table 7-261 .
max_table_num	Integer	Threshold of the number of tables in a database.
status	String	Status of submitting the query of database object information. This parameter is returned only when the API in Obtaining the Result of Querying Database Object Information is invoked. Enumerated values: <ul style="list-style-type: none"> • success • failed • pending
id	String	Task ID.

Table 7-260 Data structure description of field **target_root_db**

Parameter	Type	Description
db_name	String	Database name.
db_encoding	String	Encoding format. The default value is UTF-8 .

Table 7-261 Data structure description of field **object_info**

Parameter	Type	Description
sync_type	String	Type of the database in real-time synchronization. config : This parameter is mandatory only when the database is used as an association database in advanced settings for data filtering. In this case, the database and its schemas and tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in schemas and tables . NOTE To synchronize the database-level object, set sync_type to config for the lower-level object. Enumerated values: <ul style="list-style-type: none"> • config

Parameter	Type	Description
name	String	Name of the database in the destination database (database name mapping).
all	Boolean	Whether to migrate or synchronize the entire database. NOTE <ul style="list-style-type: none"> If data filtering, column filtering, and column mapping are required for schemas, tables, and columns in the database, set this parameter to false. Otherwise, set this parameter to true. If additional columns are required for tables in the database, set this parameter to true and enter additional column information in columns of table-level objects. If the table columns in the database are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
schemas	Map<String,SchemaObject>	Schema to be migrated or synchronized. This parameter is mandatory when all is set to false . For details, see Table 7-262 .
tables	Map<String,TableObject>	Table to be migrated or synchronized. This parameter is mandatory when all is set to false . For details, see Table 7-263 .
total_table_number	Integer	Number of tables in the database. If the number of tables exceeds the threshold, this parameter is not displayed.
is_synchronized	Boolean	Whether synchronization has been performed.

Table 7-262 Data structure description of field **schemas**

Parameter	Type	Description
sync_type	String	Type of the schema in real-time synchronization. Values: config : This parameter is mandatory only when the schema is used as an association schema in advanced settings for data filtering. In this case, the schema and its tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in tables . NOTE To synchronize the schema-level object, set sync_type to config for the lower-level object.
name	String	Name of the schema in the destination database (schema name mapping).
all	Boolean	Whether to migrate or synchronize the entire schema. NOTE <ul style="list-style-type: none"> If data filtering, column filtering, and column mapping are required for tables and columns in the schema, set this parameter to false. Otherwise, set this parameter to true. If additional columns are required for tables in the schema, set this parameter to true and enter additional column information in columns of table-level objects. If the table columns in the schema are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
tables	Map<String, TableObject >	Table to be migrated or synchronized. This parameter is mandatory when all is set to false . For details, see Table 7-263 .

Table 7-263 Data structure description of field **tables**

Parameter	Type	Description
sync_type	String	Type of the table in real-time synchronization. Values: config : This parameter is mandatory only when the table is used as an association table in advanced settings for data filtering. In this case, the table and its columns will not be synchronized to the destination database. The name , all , filtered , and filter_conditions parameters do not take effect. Enter the associated objects in columns and the configuration criteria in advanced settings for data filtering in config_conditions . NOTE To synchronize the table-level object, set sync_type to config for the lower-level object.
type	String	Object type. Values: <ul style="list-style-type: none"> ● table: indicates a table. ● view: indicates a view. ● procedure: indicates a stored procedure. Enumerated values: <ul style="list-style-type: none"> ● table ● view ● procedure
name	String	Name of the table in the destination database (table name mapping).
all	Boolean	Whether to migrate or synchronize the entire table. NOTE <ul style="list-style-type: none"> ● If column filtering and column mapping are not required for the table, set this parameter to true. Otherwise, set this parameter to false. ● If additional columns are required for the table, set this parameter to true and enter additional column information in columns. ● If the table columns are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
db_alias_name	String	Mapping of database names at the table level in the one-to-many scenario.
schema_alias_name	String	Mapping of schema names at the table level in the one-to-many scenario.

Parameter	Type	Description
filtered	Boolean	Whether to filter data in the table.
filter_conditions	Array of strings	Filtering criteria for the table data. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512
config_conditions	Array of strings	Configuration criteria in advanced settings for data filtering of the table. This parameter is mandatory when the table is used as an association table for query. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512
is_synchronized	Boolean	Whether synchronization has been performed.
columns	Map<String, ColumnObject>	Columns to be synchronized, mapped, filtered, or added. This parameter is mandatory when column filtering, column mapping, and additional columns are required. This parameter takes effect only in real-time synchronization tasks. This parameter is mandatory when all is set to false . For details, see Table 7-264 .

Table 7-264 Data structure description of field **columns**

Parameter	Type	Description
sync_type	String	Type of the column in real-time synchronization. Values: config : This parameter is mandatory only when the column is used as an association column in advanced settings for data filtering. If the column is a primary key column or index column required for optimizing the query, primary_key_for_data_filtering or index_for_data_filtering is mandatory. NOTE Whether to synchronize the column to the destination database depends on the filtered parameter, which is different from the database, schema, and table-level synchronization.

Parameter	Type	Description
primary_key_for_data_filtering	String	Whether the column is a primary key column in advanced settings for data filtering. If the column is a primary key column, set this parameter to the column name. Otherwise, leave this parameter blank.
index_for_data_filtering	String	Whether the column is an index column required for optimizing the query. The index is added to the cached data. It does not affect the source table. If the column is an index column in advanced settings for data filtering, this parameter is mandatory. Otherwise, leave this parameter blank.
name	String	Name of the column in the destination database (column name mapping). If the column is an additional column, the value must be the same as the column name in the table-level object.
type	String	Data type of the column. Column filtering: Enter the data type of the source column. Additional column adding: Enter the data type of the new column. The values and constraints vary depending on the operation type. Values: <ul style="list-style-type: none"> • Default: The value can be int, long, varchar(256), datetime, or timestamp. • create_time: The value can be long, datetime, or timestamp. • update_time: The value can be long, datetime, or timestamp. • Expression: The value can be varchar(256), and the column value must be concat(__current_database, '@', __current_table). • serverName@database@table: The value can be varchar(256).
primary_key_for_column_filtering	String	Whether the column is a primary key column in column mapping. If the column is a primary key column, set this parameter to PRI . Otherwise, leave this parameter blank.
filtered	Boolean	Whether the column is filtered out. This parameter cannot be used together with the additional parameter. Values: <ul style="list-style-type: none"> • true: indicates that the column will be synchronized. • false: indicates that the column is filtered out and will not be synchronized.

Parameter	Type	Description
additional	Boolean	Whether the column is an additional column. If the column is an additional column, the value of name must be the same as the column name in the table-level object and cannot be used together with the filtered parameter.
operation_type	String	Operation type. The new column is filled with a specific operation type. Values: <ul style="list-style-type: none"> • Default: "operation_type":"ADDITIONALCOLUMN,default_value" • create_time: "operation_type":"ADDITIONALCOLUMN,create_time" • update_time: "operation_type":"ADDITIONALCOLUMN,update_time" • Expression: "operation_type":"ADDITIONALCOLUMN,expression" • serverName@database@table: "operation_type":"ADDITIONALCOLUMN,server_database_table"
value	String	Value of the additional column. Note: <ul style="list-style-type: none"> • This parameter is mandatory only when operation type is set to Default or serverName@database@table. • When operation type is set to Expression, this parameter has a fixed value of concat(_current_database, '@', _current_table).

Status code: 400

Table 7-265 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying information about the synchronized objects

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/db-objects?type=synchronized
```

Example Response

Status code: 200

OK

```
{
  "target_root_db": {
    "db_name": "db1",
    "db_encoding": "UTF-8"
  },
  "object_scope": "table",
  "object_info": {
    "db1": {
      "name": "db1",
      "all": false,
      "schemas": {
        "schema1": {
          "name": "schema1",
          "all": false,
          "tables": {
            "table1": {
              "name": "table1",
              "type": "table",
              "all": true,
              "is_synchronized": false
            }
          }
        }
      }
    }
  },
  "total_table_num": 1
}

```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.1000010",
  "error_msg": "Job does not exist, please check job ID."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.4.5 Querying Database Object Information

Function

This API is used to query database object information.

URI

GET /v5.1/{project_id}/jobs/{job_id}/db-object

Table 7-266 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-267 Query parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Type of the object information to be queried. Values: modified : Query information about the selected objects that are not delivered.

Request Parameters

Table 7-268 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-269 Response body parameters

Parameter	Type	Description
target_root_db	Object	Destination database information for database object migration or synchronization. This parameter is mandatory for database synchronization from Layer 2 to Layer 3. For details, see Table 7-270 .
object_info	Map<String, DatabaseObject>	Migration or synchronization object information. For details, see Table 7-271 .

Parameter	Type	Description
max_table_num	Integer	Threshold of the number of tables in a database.
status	String	Status of submitting the query of database object information. This parameter is returned only when the API in Obtaining the Result of Querying Database Object Information is invoked. Enumerated values: <ul style="list-style-type: none"> • success • failed • pending
id	String	Task ID.
object_scope	String	Type of the database in real-time synchronization.

Table 7-270 Data structure description of field **target_root_db**

Parameter	Type	Description
db_name	String	Database name.
db_encoding	String	Encoding format. The default value is UTF-8 .

Table 7-271 Data structure description of field **object_info**

Parameter	Type	Description
sync_type	String	Type of the database in real-time synchronization. Value: config This parameter is mandatory only when the database is used as an association database in advanced settings for data filtering. In this case, the database and its schemas and tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in schemas and tables . NOTE To synchronize the database-level object, set sync_type to config for the lower-level object. Enumerated values: <ul style="list-style-type: none"> • config

Parameter	Type	Description
name	String	Name of the database in the destination database (database name mapping).
all	Boolean	Whether to migrate or synchronize the entire database. NOTE <ul style="list-style-type: none"> If data filtering, column filtering, and column mapping are required for schemas, tables, and columns in the database, set this parameter to false. Otherwise, set this parameter to true. If additional columns are required for tables in the database, set this parameter to true and enter additional column information in columns of table-level objects. If the table columns in the database are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
schemas	Map<String,SchemaObject>	Schema to be migrated or synchronized. This parameter is mandatory when all is set to false . For details, see Table 7-272 .
tables	Map<String,TableObject>	Table to be migrated or synchronized. This parameter is mandatory when all is set to false . For details, see Table 7-273 .
total_table_number	Integer	Number of tables in the database. If the number of tables exceeds the threshold, this parameter is not displayed.
is_synchronized	Boolean	Whether data has been synchronized.

Table 7-272 Data structure description of field **schemas**

Parameter	Type	Description
sync_type	String	Type of the schema in real-time synchronization. Value: config This parameter is mandatory only when the schema is used as an association schema in advanced settings for data filtering. In this case, the schema and its tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in tables . NOTE To synchronize the schema-level object, set sync_type to config for the lower-level object.
name	String	Name of the schema in the destination database (schema name mapping).
all	Boolean	Whether to migrate or synchronize the entire schema. NOTE <ul style="list-style-type: none"> If data filtering, column filtering, and column mapping are required for tables and columns in the schema, set this parameter to false. Otherwise, set this parameter to true. If additional columns are required for tables in the schema, set this parameter to true and enter additional column information in columns of table-level objects. If the table columns in the schema are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
tables	Map<String, TableObject >	Table to be migrated or synchronized. This parameter is mandatory when all is set to false . For details, see Table 7-273 .

Table 7-273 Data structure description of field **tables**

Parameter	Type	Description
sync_type	String	Type of the table in real-time synchronization. Value: config This parameter is mandatory only when the table is used as an association table in advanced settings for data filtering. In this case, the table and its columns will not be synchronized to the destination database. The name , all , filtered , and filter_conditions parameters do not take effect. Enter the associated objects in columns and the configuration criteria in advanced settings for data filtering in config_conditions . NOTE To synchronize the table-level object, set sync_type to config for the lower-level object.
type	String	Object type. Values: <ul style="list-style-type: none"> ● table: indicates a table. ● view: indicates a view. ● procedure: indicates a stored procedure. Enumerated values: <ul style="list-style-type: none"> ● table ● view ● procedure
name	String	Name of the table in the destination database (table name mapping).
all	Boolean	Whether to migrate or synchronize the entire table. NOTE <ul style="list-style-type: none"> ● If column filtering and column mapping are not required for the table, set this parameter to true. Otherwise, set this parameter to false. ● If additional columns are required for the table, set this parameter to true and enter additional column information in columns. ● If the table columns are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
db_alias_name	String	Mapping of database names at the table level in the one-to-many scenario.
schema_alias_name	String	Mapping of schema names at the table level in the one-to-many scenario.

Parameter	Type	Description
filtered	Boolean	Whether to filter data in the table.
filter_conditions	Array of strings	Filtering criteria for the table data. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512
config_conditions	Array of strings	Configuration criteria in advanced settings for data filtering of the table. This parameter is mandatory when the table is used as an association table for query. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512
is_synchronized	Boolean	Whether synchronization has been performed.
columns	Map<String, ColumnObject>	Columns to be synchronized, mapped, filtered, or added. This parameter is mandatory when column filtering, column mapping, and additional columns are required. This parameter takes effect only in real-time synchronization tasks. This parameter is mandatory when all is set to false . For details, see Table 7-274 .

Table 7-274 Data structure description of field **columns**

Parameter	Type	Description
sync_type	String	Type of the column in real-time synchronization. Value: config This parameter is mandatory only when the column is used as an association column in advanced settings for data filtering. If the column is a primary key column or index column required for optimizing the query, primary_key_for_data_filtering or index_for_data_filtering is mandatory. NOTE Whether to synchronize the column to the destination database depends on the filtered parameter, which is different from the database, schema, and table-level synchronization.

Parameter	Type	Description
primary_key_for_data_filtering	String	Whether the column is a primary key column in advanced settings for data filtering. If the column is a primary key column, set this parameter to the column name. Otherwise, leave this parameter blank.
index_for_data_filtering	String	Whether the column is an index column required for optimizing the query. The index is added to the cached data. It does not affect the source table. If the column is an index column in advanced settings for data filtering, this parameter is mandatory. Otherwise, leave this parameter blank.
name	String	Name of the column in the destination database (column name mapping). If the column is an additional column, the value must be the same as the column name in the table-level object.
type	String	Data type of the column. Column filtering: Enter the data type of the source column. Additional column adding: Enter the data type of the new column. The values and constraints vary depending on the operation type. Values: <ul style="list-style-type: none"> • Default: The value can be int, long, varchar(256), datetime, or timestamp. • create_time: The value can be long, datetime, or timestamp. • update_time: The value can be long, datetime, or timestamp. • Expression: The value can be varchar(256), and the column value must be concat(__current_database, '@', __current_table). • serverName@database@table: The value can be varchar(256).
primary_key_for_column_filtering	String	Whether the column is a primary key column in column mapping. If the column is a primary key column, set this parameter to PRI . Otherwise, leave this parameter blank.
filtered	Boolean	Whether the column is filtered out. This parameter cannot be used together with the additional parameter. Values: <ul style="list-style-type: none"> • true: indicates that the column will be synchronized. • false: indicates that the column is filtered out and will not be synchronized.

Parameter	Type	Description
additional	Boolean	Whether the column is an additional column. If the column is an additional column, the value of name must be the same as the column name in the table-level object and cannot be used together with the filtered parameter.
operation_type	String	Operation type. The new column is filled with a specific operation type. Values: <ul style="list-style-type: none"> • Default: "operation_type":"ADDITIONALCOLUMN,default_value" • create_time: "operation_type":"ADDITIONALCOLUMN,create_time" • update_time: "operation_type":"ADDITIONALCOLUMN,update_time" • Expression: "operation_type":"ADDITIONALCOLUMN,expression" • serverName@database@table: "operation_type":"ADDITIONALCOLUMN,server_database_table"
value	String	Value of the additional column. Note: <ul style="list-style-type: none"> • This parameter is mandatory only when operation type is set to Default or serverName@database@table. • When operation type is set to Expression, this parameter has a fixed value of concat(_current_database, '@', _current_table).

Status code: 400

Table 7-275 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying information about the selected database object

```
https://{endpoint}/v5.1/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/db-object?type=modified
```

Example Response

Status code: 200

OK

```
{
  "object_scope": "table",
  "target_root_db": {
    "db_name": "mytest",
    "db_encoding": "utf8"
  },
  "object_info": {
    "TEST": {
      "name": "TEST",
      "tables": {
        "TBL_2": {
          "name": "TBL_2",
          "type": "table",
          "all": true,
          "is_synchronized": true
        }
      },
      "is_synchronized": true,
      "total_table_num": 1
    }
  },
  "max_table_num": 50000,
  "id": "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.1000010",
  "error_msg": "Job does not exist, please check job ID."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.4.6 Downloading the Object Import Template

Function

This API is used to download the object import template of a task.

Constraints

- This API is available only for data synchronization scenarios from Oracle to GaussDB Distributed, from GaussDB(for MySQL) to Kafka, and from MySQL to Kafka.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs/{job_id}/db-object/template

Table 7-276 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-277 Query parameters

Parameter	Mandatory	Type	Description
file_import_db_level	No	String	The file template supports different levels of data synchronization. If this parameter is left blank, the table level is used by default. Default value: table Enumerated values: <ul style="list-style-type: none">• database• table

Request Parameters

Table 7-278 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 400

Table 7-279 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Obtaining the object import template of the task

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/db-object/template
```

Example Response

Status code: 200

The response body is in the file stream format, and the downloaded file is in the ZIP format.

Status code: 400

Bad Request

```
{  
  "error_code" : "DRS.10000001",  
  "error_msg" : "Failed."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.4.7 Uploading the Object Import Template

Function

This API is used to upload the object import template of a task.

Constraints

- This API can be used only in certain regions. For details, see [Endpoints](#).
- Only XLS and XLSX files can be imported for data synchronization from Oracle to GaussDB Distributed. The maximum size of a file is 5 MB. The template can be obtained through the API in [Downloading the Object Import Template](#).
- Only JSON and TXT files and ZIP packages containing JSON and TXT files can be imported for data synchronization scenarios from GaussDB(for MySQL) to Kafka and from MySQL to Kafka. A ZIP package can contain only one file.
- Only JSON files can be imported in data synchronization scenarios from GaussDB(for MySQL) to Kafka and from MySQL to Kafka. For details, see

Updating object details about a task with a specified ID in the API in **Updating Details About a Task with a Specified ID**.

- The maximum size of a JSON or TXT file imported for data synchronization scenarios from GaussDB(for MySQL) to Kafka and from MySQL to Kafka is 5 MB, the maximum size of a ZIP package is 1 MB, and the maximum size of a file in a ZIP package is 20 MB.

URI

POST /v5/{project_id}/jobs/{job_id}/db-object/template

Table 7-280 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-281 Query parameters

Parameter	Mandatory	Type	Description
file_import_db_level	No	String	The file template supports different levels of data synchronization. If this parameter is left blank, the table level is used by default. Default value: table Enumerated values: <ul style="list-style-type: none"> • database • table

Request Parameters

Table 7-282 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value multipart/form-data . For APIs used to upload objects or images, the value varies depending on the flow type. Default value: multipart/form-data
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-283 FormData parameter

Parameter	Mandatory	Type	Description
file	Yes	File	Template file to be uploaded.

Response Parameters

Status code: 200

Table 7-284 Response body parameters

Parameter	Type	Description
send_success	Boolean	Whether template upload is complete.

Parameter	Type	Description
process_status	String	File parsing status.
parsed_succes s_number	String	Number of rows that are successfully parsed.

Status code: 400

Table 7-285 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Uploading the object import template of the task

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/db-object/template
```

Example Response

Status code: 200

OK

```
{
  "send_success" : true
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10000010",
  "error_msg" : "Job does not exist, please check job ID."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.4.8 Querying the Progress of Uploading the Object Import Template

Function

This API is used to query the progress of uploading the object import template of a task.

Constraints

- This API is available only for data synchronization scenarios from Oracle to GaussDB Distributed, from GaussDB(for MySQL) to Kafka, and from MySQL to Kafka.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs/{job_id}/db-object/template/progress

Table 7-286 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-287 Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0.
limit	No	Integer	Number of items displayed per page.

Request Parameters

Table 7-288 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Response Parameters

Status code: 200

Table 7-289 Response body parameters

Parameter	Type	Description
send_success	Boolean	Whether template upload is complete.
process_status	String	File parsing status.
parsed_success_number	String	Number of rows that are successfully parsed.

Status code: 400

Table 7-290 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying the progress of uploading the object import template of the task

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/db-object/template/progress
```

Example Response

Status code: 200

OK

```
{
  "process_status" : "success",
  "parsed_success_number" : "1"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10000010",
  "error_msg" : "Job does not exist, please check job ID."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.4.9 Obtaining the Result of Uploading the Object Import Template

Function

This API is used to obtain the result of uploading the object import template of a task.

Constraints

- This API is available only for data synchronization scenarios from Oracle to GaussDB Distributed, from GaussDB(for MySQL) to Kafka, and from MySQL to Kafka.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs/{job_id}/db-object/template/result

Table 7-291 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-292 Query parameters

Parameter	Mandatory	Type	Description
type	Yes	String	<p>Type of the uploaded result. Values:</p> <ul style="list-style-type: none"> • detail: Obtain the latest uploaded file and verification result. If the uploaded file contains errors, the error cause is marked in the file. • synchronized: Obtain the synchronized (delivered) object file result. • change: Obtain the results of added and deleted objects (used in task editing). <p>Enumerated values:</p> <ul style="list-style-type: none"> • detail • synchronized • change

Request Parameters

Table 7-293 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	<p>MIME type of the request body. Use the default value application/json. For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json.</p>

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 400

Table 7-294 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying the result of uploading object import template of the task

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/db-object/template/result?type=detail
```

Example Response

Status code: 200

The response body is in the file stream format, and the downloaded file is in the ZIP format.

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10030008",
  "error_msg": "Failed to download the file"
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.4.10 Obtaining the Progress of Saving Objects

Function

This API is used to obtain the progress of saving objects.

Constraints

- This API supports only the synchronization scenarios from Oracle-> GaussDB distributed, from MySQL to Kafka, and from GaussDB(for MySQL) to Kafka.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs/{job_id}/db-objects/saving-status

Table 7-295 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-296 Query parameters

Parameter	Mandatory	Type	Description
query_id	Yes	String	ID returned by the API for saving objects.

Request Parameters

Table 7-297 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type.
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. The token is the value of X-Subject-Token in the response header.
X-Language	No	String	Request language type.

Response Parameters

Status code: 200

Table 7-298 Response body parameters

Parameter	Type	Description
id	String	Query result ID.
status	String	Query status. Enumerated values: <ul style="list-style-type: none"> • pending • failed • success
job_id	String	Task ID.

Status code: 400

Table 7-299 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Obtaining the progress of saving objects

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/db-objects/saving-status?query_id=0eacda0b-9422-4535-8b62-537d1833638b
```

Example Response

Status code: 200

OK

```
{
  "id" : "05ef2a25-a472-4144-b444-2e0a11eb5902",
  "status" : "success"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10030015",
  "error_msg" : "Failed to update database object"
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.4.11 Querying the Synchronization Mapping List

Function

This API is used to query the synchronization mapping list. During real-time synchronization, the objects that can be mapped to the destination include databases, schemas, tables, and columns (in data processing).

URI

POST /v5/{project_id}/jobs/{job_id}/object-mappings

Table 7-300 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-301 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-302 Request body parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0. The default value is 0 . Default value: 0
limit	No	Integer	Number of items displayed per page. The default value is 10 . The value ranges from 1 to 1000. Minimum value: 1 Maximum value: 1000 Default value: 10
db_name	No	String	Database name.
schema_name	No	String	Schema name.
table_name	No	String	Table name.
has_column_info	No	Boolean	Whether there is column mapping.

Response Parameters

Status code: 200

Table 7-303 Response body parameters

Parameter	Type	Description
count	Long	Total number.
object_mapping_list	Array of objects	List of synchronization mapping data. For details, see Table 7-304 .

Table 7-304 object_mapping_list parameters

Parameter	Type	Description
source_db_name	String	Database name in the source database.
source_schema_name	String	Schema name in the source database.
source_table_name	String	Table name in the source database name.
target_db_name	String	Database name in the destination database.
target_schema_name	String	Schema name in the destination database.
target_table_name	String	Table name in the destination database.
has_column_info	Boolean	Whether there is column mapping.

Status code: 400**Table 7-305** Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying the synchronization mapping list

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/163b98e8-6088-46c3-8b86-c18fea6jb502/object-mappings
{
  "db_name": "",
  "schema_name": "",
  "table_name": "",
  "offset": 1,
  "limit": 10,
  "has_column_info": false
}
```

Example Response

Status code: 200

```
OK
{
  "object_mapping_list": [ {
    "source_db_name": "yf",
    "source_table_name": "aaaa",
    "target_db_name": "yf",
    "target_table_name": "aaaa"
  } ],
  "count": 1
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.M05003",
  "error_msg": "Task information not found."
}
```

Error Code

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

7.4.12 Querying Whether Object Selection and Column Mapping Are Supported

Function

This API is used to query information such as the object selection type, column mapping, and object type that can be searched for supported by a task.

URI

GET /v5/{project_id}/jobs/{job_id}/object/support

Table 7-306 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-307 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-308 Response body parameters

Parameter	Type	Description
is_full_trans_support_object	Boolean	Whether objects can be selected for a full task.
is_incre_trans_support_object	Boolean	Whether objects can be selected for an incremental task.
is_full_incre_trans_support_object	Boolean	Whether objects can be selected for a full +incremental task.
support_object_import_engine	Array of strings	DB engine that supports object import.

Parameter	Type	Description
is_support_column_mapping	Boolean	Whether column mapping is supported.
is_database_support_search	Boolean	Whether the database supports data search.
is_schema_support_search	Boolean	Whether the schema supports data search.
is_table_support_search	Boolean	Whether the table supports data search.
file_size	String	Maximum size of a file that can be imported, in MB.
previous_select	String	Mode in which objects are migrated or synchronized last time. <ul style="list-style-type: none"> If this parameter is left blank, the required mode has not been selected. srcImportObject: The object file import mode is selected for the task last time.
import_level	String	Object import type. <ul style="list-style-type: none"> table: table-level import. database: database-level import.

Example Request

Querying the information about object selection type and column mapping supported by the task

<https://{enpoint}/v5/246765b9f59445c3919fce121ea801f4/jobs/429b9210-118d-4711-87cb-be8e2dejb201/object/support>

Example Response

Status code: 200

OK

```
{
  "is_full_trans_support_object" : false,
  "is_incre_trans_support_object" : false,
  "is_full_incre_trans_support_object" : false,
  "file_size" : "5.0",
  "support_object_import_engine" : [ "oracle-to-mrsKafka", "oracle-to-kafka" ],
  "is_support_column_mapping" : false,
  "is_database_support_search" : true,
  "is_table_support_search" : true
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

7.5 Task Details

7.5.1 Querying Task Details

Function

This API is used to query task details.

Constraints

- This API is available only for synchronization from MySQL to MySQL, migration from Redis to GeminiDB Redis, migration from cluster Redis to GeminiDB Redis, and synchronization from Oracle to GaussDB Distributed.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs/{job_id}

Table 7-309 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-310 Query parameters

Parameter	Mandatory	Type	Description
type	Yes	String	<p>Type of task details. Values:</p> <ul style="list-style-type: none"> • detail: basic task information. • network: connection testing result, which must be used together with the query_id parameter. • precheck: pre-check result, which must be used together with the query_id parameter. • progress: task progress information. • log: task log information. Pagination query parameters offset and limit are supported. • compare: a comparison task. • file: object import information. • is_writable: Result for disabling read-only for the destination database. • cloud_connection: the connectivity test of workload replay from other clouds, which must be used together with the query_id parameter. <p>Enumerated values:</p> <ul style="list-style-type: none"> • detail • network • precheck • progress • log • compare • file • is_writable • cloud_connection

Parameter	Mandatory	Type	Description
query_id	No	String	Query ID, which is used to query task details. Note: For task details of some types, query the operation result based on the query_id returned by the request that triggers the operation.
offset	No	Integer	Offset. The records after this offset will be queried. Note: Pagination query is supported for task details of some types. This parameter can be specified to control pagination query.
limit	No	Integer	Maximum number of records that can be returned. Note: Pagination query is supported for task details of some types. This parameter can be specified to control pagination query.
compare_type	No	String	Type of a comparison task. This parameter is mandatory when type is set to compare . The value can be: <ul style="list-style-type: none"> ● object_compare: object-level comparison. ● line_compare: row comparison. ● content_compare: value comparison. ● data_compare: data-level comparison. Enumerated values: <ul style="list-style-type: none"> ● object_compare ● line_compare ● content_compare ● data_compare

Parameter	Mandatory	Type	Description
query_type	No	String	Type of the comparison content. This parameter is mandatory when type is set to compare . Values: <ul style="list-style-type: none"> • overview: comparison task overview. • list: list of data comparison tasks. • detail: comparison details. • diff: inconsistency details. Enumerated values: <ul style="list-style-type: none"> • overview • list • detail • diff
object_type	No	String	Type of comparison details. Values: <ul style="list-style-type: none"> • DB: database-level comparison details. • TABLE: table-level comparison details. • INDEX: index comparison details. Enumerated values: <ul style="list-style-type: none"> • DB • TABLE • INDEX
compare_task_id	No	String	ID of a comparison task.
source_db_name	No	String	Name of the source database for data comparison.
target_db_name	No	String	Name of the destination database for data comparison.

Parameter	Mandatory	Type	Description
compare_detail_type	No	String	Type of the comparison result. Values: <ul style="list-style-type: none"> • compare: The comparison is complete. • uncompare: The comparison cannot be performed. Enumerated values: <ul style="list-style-type: none"> • compare • uncompare

Request Parameters

Table 7-311 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-312 Response body parameters

Parameter	Type	Description
job	Object	Response body for querying details about a single task. For details, see Table 7-313 .

Table 7-313 Data structure description of field **job**

Parameter	Type	Description
id	String	Task ID.
status	String	Task status.
create_time	String	Task creation time.
total_count	Integer	Total number of tasks in the list, which is irrelevant to pagination.
master_job_id	String	ID of the primary task.
base_info	Object	Basic information body of a task. For details, see Table 7-314 .
source_endpoint	Array of objects	Information body of the source database. For details, see Table 7-316 .
target_endpoint	Array of objects	Information body of the destination database. For details, see Table 7-316 .
alarm_notify	Object	Information body for setting task exception notification. If this parameter is enabled, the system sends a notification to a specified SMN topic when the task is abnormal. For details, see Table 7-323 .

Parameter	Type	Description
speed_limit	Array of objects	Flow control information body. <ul style="list-style-type: none"> If you enable flow control, you can customize the maximum migration speed. If you disable flow control, the migration speed is not limited and the outbound bandwidth of the source database is maximally used, which causes read consumption on the source database accordingly. For example, if the outbound bandwidth of the source database is 100 MB/s and 80% bandwidth is used, the I/O consumption on the source database is 80 MB/s. For details, see Table 7-324 .
user_migration	Object	User migration information body. For details, see Table 7-325 .
policy_config	Object	Policy information body. This parameter is used to configure migration and synchronization policies, including the conflict policy, DROP DATASE filtering, and object synchronization scope. For details, see Table 7-328 .
db_param	Object	Database parameter information body. For details, see Table 7-329 .
tuning_parameters	Object	Advanced setting information body. For details, see Table 7-331 .
period_order	Object	Yearly/Monthly information body. For details, see Table 7-333 .
node_info	Object	Information body of the DRS instance. For details, see Table 7-334 .
logs	Array of objects	Information body of a log query result. For details, see Table 7-338 .
network_results	Array of objects	Information body of a connection testing result. For details, see Table 7-339 .
precheck_result	Object	Pre-check result information body. For details, see Table 7-340 .
progress_info	Object	Task progress information body. For details, see Table 7-343 .

Parameter	Type	Description
migration_object_progress_info	Object	Progress information body of objects being migrated. For details, see Table 7-345 .
metrics	Object	Node metrics. For details, see Table 7-347 .
compare_result	Object	Task comparison result. For details, see Table 7-348 .
support_import_file_resp	Object	file : object import information. For details, see Table 7-359 .
instance_features	Map<String,String>	A list of task-level functions controlled by both the switch and version.
task_version	String	Task version.
connection_management	Object	Connection management. For details, see Table 7-360 .
public_ip_list	Array of objects	Information about a specified EIP. For details, see Table 7-362 .
bind_public_ip_state	String	Whether an EIP is successfully bound.
children	Array of objects	In the case of multiple tasks, if an EIP fails to be bound to a subtask, the subtask information is returned. For details, see Table 7-363 .
is_writable	String	Whether read-only is disabled for the destination database. <ul style="list-style-type: none"> ● pending: Read-only is being disabled for the destination database. ● success: Read-only is disabled for the destination database. Enumerated values: <ul style="list-style-type: none"> ● pending ● success

Table 7-314 Data structure description of field **base_info**

Parameter	Type	Description
name	String	<p>Task name. The task name can be 4 to 50 characters in length. It is case-insensitive and can contain only letters, digits, hyphens (-), and underscores (_).</p> <ul style="list-style-type: none"> • Minimum length: 4 • Maximum length: 50
job_type	String	<p>Task scenario. Values:</p> <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery. <p>Enumerated values:</p> <ul style="list-style-type: none"> • migration • sync • cloudDataGuard
multi_write	Boolean	<p>Whether the DR type is dual-active. Note:</p> <ul style="list-style-type: none"> • This parameter is mandatory when job_type is set to cloudDataGuard. If the DR type is dual-active, the value of multi_write is true. Otherwise, the value is false. • If job_type is set to other values, multi_write is optional.
engine_type	String	<p>Engine type. The value can be:</p> <ul style="list-style-type: none"> • oracle-to-gaussdbv5: Synchronization from Oracle to GaussDB distributed. • redis-to-gaussredis: Migration from Redis to GeminiDB Redis. • rediscluster-to-gaussredis: Migration from cluster Redis to GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> • oracle-to-gaussdbv5 • redis-to-gaussredis • rediscluster-to-gaussredis

Parameter	Type	Description
job_direction	String	<p>Migration direction. Values:</p> <ul style="list-style-type: none"> ● up: to-the-cloud scenarios and DR scenarios where the current cloud is the standby. ● down: out-of-cloud scenarios and DR scenarios where the current cloud is the active. ● non-dbs: self-built databases. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● up ● down ● non-dbs
task_type	String	<p>Migration type. Values:</p> <ul style="list-style-type: none"> ● FULL_TRANS: full migration. ● FULL_INCR_TRANS: full+incremental migration. ● INCR_TRANS: incremental migration. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● FULL_TRANS ● FULL_INCR_TRANS ● INCR_TRANS
net_type	String	<p>Network type. Values:</p> <ul style="list-style-type: none"> ● eip: public network. ● vpc: VPC network. The VPC network cannot be selected in DR scenarios. ● vpn: VPN or Direct Connect. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● eip ● vpc ● vpn
charging_mode	String	<p>Billing mode. The pay-per-use billing is used by default. Values:</p> <ul style="list-style-type: none"> ● period: indicates the yearly/monthly billing. ● on_demand: indicates the pay-per-use billing. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● period ● on_demand

Parameter	Type	Description
enterprise_project_id	String	Enterprise project ID. The default value is 0 , indicating the default enterprise project. Default value: 0
description	String	Task description. The task description can contain a maximum of 256 characters and cannot contain the following special characters: !<>'&"\ Minimum length: 0 Maximum length: 256
start_time	String	Scheduled start time of a task.
expired_days	String	Number of days after which an abnormal task automatically stops. The unit is day. The value ranges from 14 to 100. If this parameter is not specified, the default value is 14 . Default value: 14
tags	Array of objects	Tag information. Up to 20 tags can be added. For details, see Table 7-315 .

Table 7-315 Data structure description of field **tags**

Parameter	Type	Description
key	String	Tag key. The value can contain a maximum of 36 characters, including letters, digits, underscores (_), and hyphens (-). Minimum length: 1 Maximum length: 36
value	String	Tag value. The value can contain a maximum of 43 characters, including letters, digits, underscores (_), and hyphens (-). Minimum length: 1 Maximum length: 43

Table 7-316 Data structure description of fields **source_endpoint** and **target_endpoint**

Parameter	Type	Description
db_type	String	Database type. The value can be: <ul style="list-style-type: none"> ● oracle: Oracle. ● gaussdbv5: GaussDB distributed. ● redis: Redis. ● rediscluster: Cluster Redis. ● gaussredis: GeminiDB Redis. Enumerated values: <ul style="list-style-type: none"> ● oracle ● gaussdbv5 ● redis ● rediscluster ● gaussredis
endpoint_type	String	DB instance type. Values: <ul style="list-style-type: none"> ● offline: indicates an on-premises database. ● ecs: indicates a database built on Huawei Cloud ECSs. ● cloud: indicates a Huawei cloud database. Enumerated values: <ul style="list-style-type: none"> ● offline ● ecs ● cloud
endpoint_role	String	DB instance role. Values: <ul style="list-style-type: none"> ● so: indicates the source database. ● ta: indicates the destination database. Enumerated values: <ul style="list-style-type: none"> ● so ● ta
endpoint	Object	Basic information body of the database. For details, see Table 7-317 .
cloud	Object	Region and project where a DB instance is located. For details, see Table 7-318 .
vpc	Object	Information about the VPC, subnet, and security group where a DB instance resides. For details, see Table 7-319 .

Parameter	Type	Description
config	Object	Basic information body of database settings. For details, see Table 7-320 .
ssl	Object	Information body of the database SSL certificate. For details, see Table 7-321 .
customized_dns	Object	Custom DNS server. For details, see Table 7-322 .

Table 7-317 Data structure description of fields **endpoint** and **source_sharding**

Parameter	Type	Description
id	String	Database information ID.

Parameter	Type	Description
endpoint_name	String	<p>Database scenario type. The value can be:</p> <ul style="list-style-type: none"> ● oracle: indicates the on-premises Oracle database. ● ecs_oracle: indicates the Oracle database built on Huawei Cloud ECSs. ● cloud_gaussdbv5: indicates the Huawei Cloud distributed GaussDB database. ● mysql: indicates the MySQL database built on other clouds or on-premises MySQL database. ● ecs_mysql: indicates the MySQL database built on Huawei Cloud ECSs. ● cloud_mysql: indicates the Huawei Cloud RDS for MySQL database. ● redis: On-premises Redis database. ● ecs_redis: Redis database built on Huawei Cloud ECSs. ● rediscluster: On-premises cluster Redis database. ● ecs_rediscluster: Cluster Redis database built on Huawei Cloud ECSs. ● cloud_gaussdb_redis: Huawei Cloud GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● oracle ● ecs_oracle ● cloud_gaussdbv5 ● mysql ● ecs_mysql ● cloud_mysql ● redis ● ecs_redis ● rediscluster ● ecs_rediscluster ● cloud_gaussdb_redis

Parameter	Type	Description
ip	String	<p>Database IP address. Constraints:</p> <ul style="list-style-type: none"> • If an on-premises MongoDB database is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. A maximum of three IP addresses or domain names can be entered. • If a DDS instance is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. • If the database is a cluster Redis database, enter the IP addresses and port numbers of all shards in the source cluster Redis database. Use colons (:) to separate a database IP address and port number. Use commas (,) to separate multiple values. You are advised to enter the IP address of the slave node of a cluster shard. Up to 32 IP addresses or domain names can be entered. Use commas (,) to separate multiple IP addresses or domain names. <p>Example:</p> <ul style="list-style-type: none"> • MongoDB: 192.168.0.10:8080,192.168.0.11:8080,192.168.0.12:8080 • DDS: 192.168.205.130:8635,192.168.250.64:8635 • Cluster Redis: 192.168.0.1:8080,192.168.0.2:8080
db_port	String	<p>Database port.</p> <p>The value is an integer ranging from 1 to 65535.</p>
db_user	String	Database username.
db_password	String	Database password.
instance_id	String	ID of a Huawei Cloud DB instance.
instance_name	String	Name of a Huawei Cloud DB instance.
db_name	String	<p>Database name. Example:</p> <ul style="list-style-type: none"> • oracle: serviceName.orcl.

Parameter	Type	Description
source_sharding	Array of objects	Information about the physical source database. For details, see Table 7-317 .

Table 7-318 Data structure description of field **cloud**

Parameter	Type	Description
region	String	Region ID. This parameter is mandatory when DB Instance Type is set to ecs (database built on Huawei Cloud ECSs) or cloud (Huawei cloud database). For details, see Regions and Endpoints . Note: If there are subprojects in a region, the region ID is a combination of the regional project ID and subproject ID, which are combined using an underscore (_).
project_id	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see "Obtaining a Project ID".
az_code	String	Name of the AZ where the database is located.

Table 7-319 Data structure description of field **vpc**

Parameter	Type	Description
vpc_id	String	ID of the VPC where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. Method 2: Call the API for querying VPCs. For details, see Querying VPCs .
subnet_id	String	ID of the subnet where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and click the target subnet on the Subnets page to view the network ID on the displayed page. Method 2: Call the API for querying subnets. For details, see Querying Subnets .

Parameter	Type	Description
security_group_id	String	ID of the security group where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console. Choose Access Control > Security Groups in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page. Method 2: Call the API for querying security groups. For details, see Querying Security Groups .

Table 7-320 Data structure description of field **config**

Parameter	Type	Description
is_target_read_only	Boolean	Whether the destination DB instance is set to read-only. This parameter is available only when job_direction is set to up during MySQL migration and DR. In the DR scenario, this parameter is mandatory and set to true if the current cloud is the standby in single-active DR. If this parameter is not specified, the default value is true . Default value: true
node_num	Integer	Number of subtasks connected to the source cluster Redis instance for data migration from cluster Redis to GeminiDB Redis. The value ranges from 1 to 16 and cannot be greater than the number of shards in the source cluster Redis instance. Set this parameter based on the scale of the source cluster Redis instance. You are advised to set one subtask to connect to four shards in the source cluster Redis instance. Minimum value: 1 Maximum value: 16 Default value: 0

Table 7-321 Data structure description of field **ssl**

Parameter	Type	Description
ssl_link	Boolean	Whether SSL is enabled. If SSL is enabled, the value of this parameter is true .
ssl_cert_name	String	SSL certificate name.

Parameter	Type	Description
ssl_cert_key	String	SSL certificate content, which is encrypted using Base64.
ssl_cert_check_sum	String	The checksum value of the SSL certificate, which is used for backend verification. This parameter is mandatory for secure connection to the source database.
ssl_cert_password	String	SSL certificate password. This parameter is mandatory if the certificate file name extension is .p12.

Table 7-322 Data structure description of field **customized_dns**

Parameter	Type	Description
is_set_dns	Boolean	Specifies whether to set your own DNS server.
set_dns_action	String	Behavior of setting your own DNS server. <ul style="list-style-type: none"> ● add: Add a customized DNS server IP address. ● keep: Retain the DNS server IP address. ● update: Update the customized DNS server IP address. (The update takes effect when the DNS server IP address changes.) ● recover: Restore the default DNS server IP address. (Restoration may cause domain name resolution failures. Exercise caution when performing this operation.) Enumerated values: <ul style="list-style-type: none"> ● add ● keep ● update ● recover
dns_ip	String	DNS server IP address. Minimum length: 0 Maximum length: 15

Table 7-323 Data structure description of field **alarm_notify**

Parameter	Type	Description
alarm_to_user	Boolean	Whether to notify users of alarms. Default value: false

Parameter	Type	Description
topic_urn	String	SMN topic URN.
delay_time	Long	<p>Delay threshold, in seconds. Values:</p> <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0 <p>NOTE</p> <ol style="list-style-type: none"> 1. A synchronization delay indicates a time difference (in seconds) of synchronization between the source and destination database. 2. If the delay exceeds a specified value and lasts for 6 minutes, DRS will notify specified recipients. (In the early stages of an incremental migration, there is more delay because more data is waiting to be synchronized. In this situation, no notifications will be sent.) 3. This option is available only for full+incremental tasks.
rpo_delay	Long	<p>RPO delay threshold, in seconds. Values:</p> <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0 <p>NOTE</p> <p>If the RPO delay between the service database and the DRS instance exceeds a specified value and lasts for 6 minutes, DRS will notify specified recipients. (In the early stages of an incremental DR, there is more delay because more data is waiting to be synchronized. In this situation, no notifications will be sent.)</p>
rto_delay	Long	<p>RTO delay threshold, in seconds. Values:</p> <ul style="list-style-type: none"> • Minimum value: 1 • Maximum value: 3600 • Default value: 0 <p>NOTE</p> <p>If the RTO delay between the DRS instance and the DR database exceeds a specified value and lasts for 6 minutes, DRS will notify specified recipients.</p>

Table 7-324 Data structure description of field **speed_limit**

Parameter	Type	Description
begin	String	Start time (UTC) of flow control. The start time is an integer in hh:mm format and the minutes part is ignored. hh indicates the hour, for example, 01:00.
end	String	End time (UTC) in the format of hh:mm, for example, 15:59. The value must end with 59.
speed	String	Speed. The value ranges from 1 to 9,999, in MB/s.

Table 7-325 Data structure description of field **user_migration**

Parameter	Type	Description
is_migrate_user	Boolean	Whether to migrate users.
is_set_password	Boolean	Whether to reset a unified password. Values: <ul style="list-style-type: none"> true: Reset a unified password. false: Do not reset a unified password. The following scenarios are supported: <ul style="list-style-type: none"> Real-time migration: MySQL migration.
password	String	Unified password. This parameter is mandatory when is_set_password is set to true . The password cannot be empty.
user_list	Array of objects	User list in the migration objects. The following scenarios are supported: <ul style="list-style-type: none"> Real-time migration: MySQL-to-MySQL migration and MongoDB-to-DDS migration. For details, see Table 7-326 .
role_list	Array of objects	User role in the migration objects. The following scenarios are supported: <ul style="list-style-type: none"> Real-time migration: MongoDB-to-DDS migration. For details, see Table 7-327 .

Table 7-326 Data structure description of field **user_list**

Parameter	Type	Description
id	String	User ID.

Parameter	Type	Description
account	String	User.
is_set_password	Boolean	Whether to reset the user password. The following scenarios are supported: <ul style="list-style-type: none"> Real-time migration: MySQL migration.
password	String	New password. This parameter is mandatory when is_set_password is set to true . The password cannot be empty.

Table 7-327 Data structure description of field **role_list**

Parameter	Type	Description
role	String	Role.

Table 7-328 Data structure description of field **policy_config**

Parameter	Type	Description
filter_ddl_policy	String	DDL filtering policy. Values: <ul style="list-style-type: none"> drop_database Scenarios: <ul style="list-style-type: none"> Real-time migration: For MySQL migration, this parameter can be set to "", indicating that DROP DATABASE is not filtered. Real-time synchronization: For MySQL synchronization, this parameter can only be set to drop_database. Enumerated values: <ul style="list-style-type: none"> drop_database

Parameter	Type	Description
conflict_policy	String	<p>Incremental conflict policy. The conflict policy refers to the conflict handling policy during incremental synchronization. By default, conflicts in the full synchronization phase are ignored. Values:</p> <ul style="list-style-type: none"> ● ignore: Ignore the conflict. The system will ignore the conflicting data and continue the subsequent synchronization process. ● stop: Report an error. The synchronization task will be stopped and fail. You can view the details in synchronization logs. ● overwrite: Overwrite the existing data with the synchronized data. Conflicting data will be overwritten. <p>Scenarios:</p> <ul style="list-style-type: none"> ● Real-time migration: Not supported. ● Real-time synchronization: Supported. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● ignore ● stop ● overwrite
index_trans	Boolean	<p>Object synchronization scope: indicates whether to synchronize normal indexes. By default, DRS synchronizes the primary key or unique index. A normal index refers to an index other than the primary key or unique index. Values:</p> <ul style="list-style-type: none"> ● true: All indexes will be synchronized. ● false: Only primary key or unique indexes are synchronized. <p>Default value: true</p>
ddl_trans	Boolean	<p>Object synchronization scope: indicates whether to synchronize DDLs in the incremental phase. Values:</p> <ul style="list-style-type: none"> ● true: DDLs are synchronized in the incremental phase. ● false: DDLs are not synchronized in the incremental phase. <p>Default value: true</p>

Parameter	Type	Description
data_sync_topology_type	String	<p>Data synchronization topology. Data synchronization supports multiple synchronization topologies. You can plan your synchronization instances based on service requirements. Values:</p> <ul style="list-style-type: none">● one2one: one-to-one.● one2many: one-to-many.● many2one: many-to-one. <p>Default value: one2one</p> <p>Enumerated values:</p> <ul style="list-style-type: none">● one2one● one2many● many2one

Parameter	Type	Description
support_ddl_info	String	<p>DDLs to be synchronized. Values:</p> <ul style="list-style-type: none"> ● CREATE_TABLE: Create a table. ● ADD_COLUMN: Add a column. ● MODIFY_COLUMN: Modify column attribute. ● CHANGE_COLUMN: Change column attribute. ● DROP_INDEX: Delete an index. ● ADD_INDEX: Add an index. ● CREATE_INDEX: Create an index. ● RENAME_INDEX: Rename an index. <p>Note:</p> <ul style="list-style-type: none"> ● In one-to-one and one-to-many scenarios, if the DDL usage of the source and destination databases must be consistent, high-risk DDLs must be synchronized. ● In one-to-one and one-to-many scenarios, if you do not want a high-risk DDL to be performed in the destination, deselect the high-risk DDL to protect destination data. However, filtering DDL may cause synchronization to fail, for example, column deletion. ● In many-to-one data synchronization tasks, it is recommended that only the ADD COLUMN operation is synchronized, or tasks may fail or data may be inconsistent due to changes in destination tables. Typical failure scenarios are as follows: <ul style="list-style-type: none"> – Synchronizing the TRUNCATE operation clears all destination data. – Synchronizing the CREATE INDEX operation locks the destination table. – Synchronizing the RENAME operation causes other task failure because the destination table cannot be found. – Synchronizing the MODIFY COLUMN operation causes other task failure due to incompatible data types. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CREATE_TABLE ● ADD_COLUMN ● MODIFY_COLUMN ● CHANGE_COLUMN

Parameter	Type	Description
		<ul style="list-style-type: none"> • DROP_INDEX • ADD_INDEX • CREATE_INDEX • RENAME_INDEX
sync_type_policy	String	Synchronization object type. Values: <ul style="list-style-type: none"> • supportAllType: All types. • tableData: Data. • tableStructure: Table structure. • constraintData: Index. NOTE Except supportAllType , other types can be specified together, for example, tableData,tableStructure .
increment_read_mode	String	Incremental log reading mode for synchronization from Oracle to GaussDB: logminer or xstream .
dml_types	String	DML synchronization type.

Table 7-329 Data structure description of field **db_param**

Parameter	Type	Description
common	Array of objects	Common parameter. Only the values of destination database parameters whose comparison results are inconsistent can be changed. For details, see Table 7-330 .
performance	Array of objects	Performance parameter. If the comparison results are consistent, you can also change the values of destination database parameters. For details, see Table 7-330 .

Table 7-330 Data structure description of fields **common** and **performance**

Parameter	Type	Description
key	String	Database parameter name.
target_value	String	Parameter value of the destination database.

Table 7-331 Data structure description of field **tuning_params**

Parameter	Type	Description
full_sync	Array of objects	Full migration tuning parameters. For details, see Table 7-332 .
incre_capture	Array of objects	Incremental capture tuning parameters. For details, see Table 7-332 .
incre_apply	Array of objects	Incremental replay tuning parameters. For details, see Table 7-332 .
incre_relay	Array of objects	Incremental log extraction tuning parameters. For details, see Table 7-332 .

Table 7-332 Data structure description of fields **full_sync**, **incre_capture**, **incre_apply**, and **incre_relay**

Parameter	Type	Description
param_name	String	Parameter name.
param_value	String	Parameter value.
availability	Boolean	Available or not.

Table 7-333 Data structure description of field **period_order**

Parameter	Type	Description
period_type	Integer	Subscription period type. Values: <ul style="list-style-type: none"> • 2: indicates that the service is subscribed by month. • 3: indicates that the service is subscribed by year. Default value: 3 Enumerated values: <ul style="list-style-type: none"> • 2 • 3
period_num	Integer	Number of subscription periods. This parameter depends on the value of period_type . For example: <ul style="list-style-type: none"> • When period_type is set to 2, the value 1 indicates one month. • When period_type is set to 3, the value 1 indicates one year.

Parameter	Type	Description
is_auto_renew	Integer	Whether auto renewal is enabled. Values: <ul style="list-style-type: none"> • 0: indicates that auto renewal is disabled. This is the default value. You need to pay manually. • 1: indicates that auto renewal is enabled. Default value: 0 Enumerated values: <ul style="list-style-type: none"> • 0 • 1

Table 7-334 Data structure description of field **node_info**

Parameter	Type	Description
spec	Object	Information body of DRS instance specifications. For details, see Table 7-335 .
vpc	Object	Information body of DRS instance VPC. This parameter is mandatory for self-built databases. For details, see Table 7-336 .
base_info	Object	Basic task info. For details, see Table 7-337 .

Table 7-335 Data structure description of field **spec**

Parameter	Type	Description
node_type	String	Specification code. Values: <ul style="list-style-type: none"> • micro: minimum specifications. • small: small specifications. • medium: medium specifications. • high: large specifications. Enumerated values: <ul style="list-style-type: none"> • micro • small • medium • high

Table 7-336 Data structure description of field **vpc**

Parameter	Type	Description
vpc_id	String	ID of the VPC where the DRS instance is located.
subnet_id	String	ID of the subnet where the DRS instance is located.
custom_node_ip	String	IP address of the DRS instance to be created. Use commas (,) to separate multiple values. Only IPv4 addresses are supported. To obtain the IP address, perform the following steps: <ul style="list-style-type: none"> Method 1: Log in to the VPC console and click the target subnet on the Subnets page. View the subnet CIDR block and select an IP address that is not in use. Method 2: Call the API for querying private IP addresses. For details, see "Querying Private IP Addresses". Select a private IP address whose device_owner is left blank. Example: 192.168.0.10,192.168.0.11
security_group_id	String	ID of the security group where the DRS instance is located.

Table 7-337 Data structure description of field **base_info**

Parameter	Type	Description
instance_type	String	DB instance type. The value can be: <ul style="list-style-type: none"> single: single instance. ha: primary/standby instance. Enumerated values: <ul style="list-style-type: none"> single ha
arch	String	CPU architecture. The value can be: <ul style="list-style-type: none"> x86 arm Enumerated values: <ul style="list-style-type: none"> x86 arm

Parameter	Type	Description
availability_zone	String	AZ ID. If the task instance is not a single instance, you need to specify an AZ for each node of the instance and separate the AZs with commas (.). Example: <ul style="list-style-type: none"> If instance_type is set to single, the value is cn-north-4a. If instance_type is set to ha, the value is cn-north-4a,cn-north-4b.
status	String	Status.
role	String	Primary/Standby role of a task.

Table 7-338 Data structure description of field **logs**

Parameter	Type	Description
level	String	Log level.
message	String	Log information.
create_time	String	Log time.

Table 7-339 Data structure description of field **network_results**

Parameter	Type	Description
ip	String	IP address for connection testing.
success	Boolean	Whether the connection testing is successful.
result	String	Connection testing result.
status	String	Whether the connection testing is successful. Values: <ul style="list-style-type: none"> success: The connection testing is successful. failed: The connection testing fails. Enumerated values: <ul style="list-style-type: none"> success failed
error_code	String	Error code of the connection testing failure.
error_msg	String	Error message of the connection testing failure.

Table 7-340 Data structure description of field **precheck_result**

Parameter	Type	Description
result	Boolean	Whether the pre-check items are passed.
process	String	Pre-check progress, in percentage.
total_passed_rate	String	Percentage of passed pre-checks.
rds_instance_id	String	DB instance ID.
job_direction	String	Migration direction.
precheck_results	Array of objects	Pre-check results. For details, see Table 7-341 .

Table 7-341 Data structure description of field **precheck_results**

Parameter	Type	Description
item	String	Check item.
result	String	Check results. Values: <ul style="list-style-type: none">● PASSED: The check is passed.● ALARM: There are check items to be confirmed.● FAILED: The check fails. Enumerated values: <ul style="list-style-type: none">● PASSED● ALARM● FAILED
failed_reason	String	Failure cause.
data	String	Failure data.
raw_error_message	String	Failure details.
group	String	Check item group.
is_support_skip	Boolean	Whether to skip the check.
is_skipped	Boolean	Skipped.
failed_sub_jobs	Array of objects	Details about a failed subtask. For details, see Table 7-342 .

Table 7-342 Data structure description of field **failed_sub_jobs**

Parameter	Type	Description
id	String	Subtask ID.
name	String	Subtask name.
check_result	String	Subtask check result.

Table 7-343 Data structure description of field **progress_info**

Parameter	Type	Description
progress	String	Migration comparison progress in percentage.
incr_trans_delay	String	Incremental migration delay (unit: s).
incr_trans_delay_millis	String	Incremental migration delay (unit: ms).
task_mode	String	Migration type.
transfer_statuses	String	Migration status.
process_time	String	Migration time.
remaining_time	String	Estimated remaining time.
progress_map	Map<String, ProgressCompleteInfo >	Full migration progress details. For details, see Table 7-344 .

Table 7-344 Data structure description of field **progress_map**

Parameter	Type	Description
completed	String	Progress.
remaining_time	String	Estimated remaining time.

Table 7-345 Data structure description of field **migration_object_progress_info**

Parameter	Type	Description
migration_object_overview	Array of objects	Overview details. For details, see Table 7-346 .

Parameter	Type	Description
create_time	String	Data generation time.
full_start_time	String	Start time of full migration.
full_complete_time	String	End time of full migration.
incr_start_time	String	Start time of incremental migration.
end_time	String	End time.

Table 7-346 Data structure description of field **migration_object_overview**

Parameter	Type	Description
type	String	Type.
src_count	String	Amount of data to be migrated.
dst_count	String	Amount of data migrated.
status	String	Status.
start_time	String	Start time.
end_time	String	End time.

Table 7-347 Data structure description of field **metrics**

Parameter	Type	Description
job_id	String	Task ID.
node_id	String	Instance ID.
time_stamp	String	Time when the metric is reported.
cpu_util	String	CPU usage.
mem_util	String	Memory usage.
network_incoming_bytes_rate	String	Network input throughput.
network_outgoing_bytes_rate	String	Network output throughput.
disk_read_bytes_rate	String	Disk read throughput.

Parameter	Type	Description
disk_write_bytes_rate	String	Disk write throughput.
apply_rows_rate	String	Rows written into destination database per second.
apply_transactions_rate	String	DML TPS.
apply_ddl_rate	String	DDL TPS.
apply_average_execute_time	String	Average transaction execution time.
apply_average_commit_time	String	Average transaction commit time.
apply_current_state	String	Synchronization status.

Table 7-348 Data structure description of field **compare_result**

Parameter	Type	Description
objects_compare_overview_info	Object	Information body of object-level comparison overview. For details, see Table 7-349 .
objects_compare_detail_infos	Array of objects	Information body of object-level comparison details. For details, see Table 7-351 .
data_compare_task_list	Array of objects	List of data comparison tasks. For details, see Table 7-352 .
line_compare_overview_infos	Array of objects	Information body of row comparison overview. For details, see Table 7-353 .
line_compare_detail_infos	Array of objects	Information body of row comparison details. For details, see Table 7-354 .
content_compare_overview_infos	Array of objects	Information body of value comparison overview. For details, see Table 7-355 .
content_compare_detail_infos	Array of objects	Information body of value comparison details. For details, see Table 7-356 .

Parameter	Type	Description
content_diff_detail_info	Object	Details about inconsistent value comparison data. For details, see Table 7-357 .

Table 7-349 Data structure description of field **objects_compare_overview_info**

Parameter	Type	Description
create_time	String	Time when a comparison task is created.
compare_results	Array of objects	Comparison result. For details, see Table 7-350 .
start_time	String	Start time of a comparison task.
status	String	Status of a comparison task. Values: <ul style="list-style-type: none"> ● RUNNING: The comparison task is in progress. ● WAITING_FOR_RUNNING: The comparison task is waiting to be started. ● SUCCESSFUL: The comparison task is complete. ● FAILED: The comparison task fails. ● CANCELLED: The comparison task is canceled. Enumerated values: <ul style="list-style-type: none"> ● RUNNING ● WAITING_FOR_RUNNING ● SUCCESSFUL ● FAILED ● CANCELLED
export_status	String	Status of the exported comparison result.
report_remaining_seconds	Long	Remaining validity period of the exported comparison result.
compare_job_id	String	ID of a comparison task.
error_msg	String	Failure cause.

Table 7-350 Data structure description of field **compare_results**

Parameter	Type	Description
type	String	<p>Object type. Values:</p> <ul style="list-style-type: none"> ● DB: indicates a database. ● TABLE: indicates a table. ● VIEW: indicates a view. ● EVENT: indicates an event. ● ROUTINE: indicates a stored procedure and function. ● INDEX: indicates an index. ● TRIGGER: indicates a trigger. ● SYNONYM: indicates a synonym. ● FUNCTION: indicates a function. ● PROCEDURE: indicates a stored procedure. ● TYPE: indicates a user-defined type. ● RULE: indicates a rule. ● DEFAULT_TYPE: indicates a default value. ● PLAN_GUIDE: indicates an execution plan. ● CONSTRAINT: indicates a constraint. ● FILE_GROUP: indicates a file group. ● PARTITION_FUNCTION: indicates a partition function. ● PARTITION_SCHEME: indicates a partition scheme. ● TABLE_COLLATION: indicates table sorting rule. ● EXTENSIONS: indicates a plug-in. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● DB ● TABLE ● VIEW ● EVENT ● ROUTINE ● INDEX ● TRIGGER ● SYNONYM ● FUNCTION ● PROCEDURE ● TYPE ● RULE ● DEFAULT_TYPE

Parameter	Type	Description
		<ul style="list-style-type: none"> • PLAN_GUIDE • CONSTRAINT • FILE_GROUP • PARTITION_FUNCTION • PARTITION_SCHEME • TABLE_COLLATION • EXTENSIONS
source_count	Long	Number of source objects.
target_count	Long	Number of destination objects.
status	String	<p>Comparison result. Values: CONSISTENT: consistent. INCONSISTENT: inconsistent. COMPARING: The comparison is in progress. WAITING_FOR_COMPARISON: waiting for comparison. FAILED_TO_COMPARE: The comparison fails. TARGET_DB_NOT_EXIST: The destination database does not exist. CAN_NOT_COMPARE: Comparison cannot be performed.</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • CONSISTENT • INCONSISTENT • COMPARING • WAITING_FOR_COMPARISON • FAILED_TO_COMPARE • TARGET_DB_NOT_EXIST • CAN_NOT_COMPARE

Table 7-351 Data structure description of field **objects_compare_detail_infos**

Parameter	Type	Description
source_db_value	String	Comparison value of the source database.
target_db_value	String	Comparison value of the destination database.
source_db_name	String	Source database name.
target_db_name	String	Destination database name.

Parameter	Type	Description
error_message	String	Failure cause.

Table 7-352 Data structure description of field **data_compare_task_list**

Parameter	Type	Description
id	String	ID of a comparison task.
type	String	Comparison type.
start_time	String	Start time.
end_time	String	End time.
status	String	<p>Status of a comparison task. Values:</p> <ul style="list-style-type: none"> ● RUNNING: The comparison task is in progress. ● WAITING_FOR_RUNNING: The comparison task is waiting to be started. ● SUCCESSFUL: The comparison task is complete. ● FAILED: The comparison task fails. ● CANCELLED: The comparison task is canceled. ● TIMEOUT_INTERRUPT: The comparison task times out. ● FULL_DOING: Full verification is in progress. ● INCRE_DOING: Incremental verification is in progress. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● RUNNING ● WAITING_FOR_RUNNING ● SUCCESSFUL ● FAILED ● CANCELLED ● TIMEOUT_INTERRUPT ● FULL_DOING ● INCRE_DOING
compute_type	String	Compute resource of a comparison task.
export_status	String	Status of the exported comparison result.
report_remaining_seconds	String	Remaining validity period of the exported comparison result.

Parameter	Type	Description
compare_job_tag	Map<String,String>	Tag of a comparison task.
error_msg	String	Failure cause.

Table 7-353 Data structure description of field **line_compare_overview_infos**

Parameter	Type	Description
source_db_name	String	Source database name.
target_db_name	String	Destination database name.
status	String	<p>Row comparison result. Values:</p> <ul style="list-style-type: none"> ● CONSISTENT: consistent. ● INCONSISTENT: inconsistent. ● COMPARING: The comparison is in progress. ● WAITING_FOR_COMPARISON: waiting for comparison. ● FAILED_TO_COMPARE: The comparison fails. ● TARGET_DB_NOT_EXIST: The destination database does not exist. ● CAN_NOT_COMPARE: Comparison cannot be performed. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CONSISTENT ● INCONSISTENT ● COMPARING ● WAITING_FOR_COMPARISON ● FAILED_TO_COMPARE ● TARGET_DB_NOT_EXIST ● CAN_NOT_COMPARE

Table 7-354 Data structure description of field **line_compare_detail_infos**

Parameter	Type	Description
source_table_name	String	Table name of the source database.

Parameter	Type	Description
source_row_num	String	Number of table rows in the source database.
target_table_name	String	Table name of the destination database.
target_row_num	String	Number of table rows in the destination database.
difference_row_num	String	Difference value.
status	String	<p>Comparison result. Values:</p> <ul style="list-style-type: none"> ● CONSISTENT: consistent. ● INCONSISTENT: inconsistent. ● COMPARING: The comparison is in progress. ● WAITING_FOR_COMPARISON: waiting for comparison. ● FAILED_TO_COMPARE: The comparison fails. ● TARGET_DB_NOT_EXIST: The destination database does not exist. ● CAN_NOT_COMPARE: Comparison cannot be performed. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CONSISTENT ● INCONSISTENT ● COMPARING ● WAITING_FOR_COMPARISON ● FAILED_TO_COMPARE ● TARGET_DB_NOT_EXIST ● CAN_NOT_COMPARE
message	String	Message.

Table 7-355 Data structure description of field **content_compare_overview_infos**

Parameter	Type	Description
source_db	String	Source database name.
target_db	String	Destination database name.

Parameter	Type	Description
status	String	<p>Comparison result. Values:</p> <ul style="list-style-type: none"> ● CONSISTENT: consistent. ● INCONSISTENT: inconsistent. ● COMPARING: The comparison is in progress. ● WAITING_FOR_COMPARISON: waiting for comparison. ● FAILED_TO_COMPARE: The comparison fails. ● TARGET_DB_NOT_EXIST: The destination database does not exist. ● CAN_NOT_COMPARE: Comparison cannot be performed. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● CONSISTENT ● INCONSISTENT ● COMPARING ● WAITING_FOR_COMPARISON ● FAILED_TO_COMPARE ● TARGET_DB_NOT_EXIST ● CAN_NOT_COMPARE
compare_result	Boolean	Comparison result.

Table 7-356 Data structure description of field **content_compare_detail_infos**

Parameter	Type	Description
source_db	String	Source database name.
target_db	String	Destination database name.
source_table_name	String	Table name of the source database.
target_table_name	String	Table name of the destination database.
source_row_number	Long	Number of table rows in the source database.
target_row_number	Long	Number of table rows in the destination database.

Parameter	Type	Description
difference_row_num	Long	Number of inconsistent rows.
line_compare_result	Boolean	Row comparison result. Values: <ul style="list-style-type: none"> ● true: consistent. ● false: inconsistent.
content_compare_result	Boolean	Value comparison result. Values: <ul style="list-style-type: none"> ● true: consistent. ● false: inconsistent.
message	String	Failure cause.

Table 7-357 Data structure description of field **content_diff_detail_info**

Parameter	Type	Description
count	Long	Quantity.
target_meta_is_null	Long	Inconsistency details: The objects were found only in the source database.
source_meta_is_null	Long	Inconsistency details: The objects were found only in the destination database.
source_target_meta_not_null	Long	Inconsistency details: The objects were found in the source and destination databases.
contents_infos	Array of objects	Information list. For details, see Table 7-358 .

Table 7-358 Data structure description of field **contents_infos**

Parameter	Type	Description
source_key_value	Array of strings	Key value of the source database.
target_key_value	Array of strings	Key value of the destination database.
source_select_sql	String	Query the SQL statements of the source database.
target_select_sql	String	Query the SQL statements of the destination database.

Table 7-359 Data structure description of field **support_import_file_resp**

Parameter	Type	Description
file_size	String	File import threshold.
previous_select	String	Mode in which objects are selected last time.

Table 7-360 Data structure description of field **connection_management**

Parameter	Type	Description
driver_management	Object	Driver management. For details, see Table 7-361 .

Table 7-361 Data structure description of field **driver_management**

Parameter	Type	Description
driver_name	String	Driver name.

Table 7-362 Data structure description of field **public_ip_list**

Parameter	Type	Description
id	String	ID of a specified EIP.
public_ip	String	EIP.
type	String	Type of a task with an EIP bound. <ul style="list-style-type: none"> In a primary/standby task, master indicates the primary task, and slave indicates the standby task. In other cases, the value is fixed to master. Enumerated values: <ul style="list-style-type: none"> master slave

Table 7-363 Data structure description of field **children**

Parameter	Type	Description
id	String	Subtask ID.
name	String	Subtask name.

Status code: 400

Table 7-364 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

- Querying the synchronization progress of a task
<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r?type=progress>
- Querying the row comparison overview
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r?type=compare&query_type=overview&compare_type=line_compare&compare_task_id=1994b3e6-15ef-471e-8af1-7e2ed3e85b06&offset=0&limit=10
- Querying task details
<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r?type=detail>
- Querying data-level comparison tasks
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r?type=compare&compare_type=data_compare&query_type=list&limit=10&offset=0
- Querying synchronization logs
<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r?type=log&offset=0&limit=10>
- Querying the connection testing result
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r?type=network&query_id=669c9c19-99e3-4628-8c90-397136266701

Example Response

Status code: 200

OK

Querying basic task information (when **type** is set to **detail**)

```
{
  "job" : {
    "id" : "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r",
    "status" : "CONFIGURATION",
    "create_time" : "2022-11-07T16:15:18Z",
    "base_info" : {
      "name" : "DRS-1234",
      "job_type" : "sync",
      "engine_type" : "oracle-to-gaussdbv5",
      "job_direction" : "up",
      "task_type" : "FULL_INCR_TRANS",
      "net_type" : "eip",
```



```
"charging_mode": "on_demand",
"enterprise_project_id": "0",
"description": "",
"expired_days": 14,
"tags": [ {
  "key": "test",
  "value": "test"
} ]
},
"source_endpoint": [ {
  "db_type": "oracle",
  "endpoint_type": "offline",
  "endpoint_role": "so",
  "endpoint": {
    "id": "f59e6118-da89-4fdb-9b98-65f56709928a",
    "endpoint_name": "oracle",
    "ip": "10.154.217.239",
    "db_port": "1521",
    "db_user": "ORACLE_USER",
    "db_name": "serviceName.orcl"
  },
  "ssl": {
    "ssl_link": false
  }
} ],
"target_endpoint": [ {
  "db_type": "gaussdbv5",
  "endpoint_type": "cloud",
  "endpoint_role": "ta",
  "endpoint": {
    "id": "10deb576-8885-473b-a213-4d76e668dc0d",
    "endpoint_name": "cloud_gaussdbv5",
    "instance_id": "c2c7579bc09c490b9d8009db715aeb0ain14",
    "db_user": "root"
  },
  "cloud": {
    "region": "cn-north-4",
    "project_id": "9dc8c0f3f74c4dbb23c29cf0318ee561",
    "az_code": "cn-north-4a,cn-north-4g,cn-north-4c"
  },
  "vpc": {
    "vpc_id": "2cb5d364-ae63-4fbb-85b7-7d59f4a88f8f",
    "subnet_id": "2cb54324-ae63-4fbb-85b7-7d59f4a88f8f",
    "security_group_id": "039a3s89-665a-43e2-9b4f-bda7d9ee148d"
  }
} ],
"alarm_notify": {
  "alarm_to_user": true,
  "topic_urn": "urn:smn:cn-north-4:f2c2468c3ee7410c862a461ca073d2f2:test",
  "delay_time": 60
},
"speed_limit": [ {
  "begin": "16:00",
  "end": "15:59",
  "speed": "10"
} ],
"policy_config": {
  "ddl_trans": false
},
"node_info": {
  "spec": {
    "node_type": "medium"
  }
}
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "DRS.10000010",  
  "error_msg" : "Job does not exist, please check job ID."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.5.2 Obtaining Task Pricing Details

Function

This API is used to query the task pricing details.

Constraints

This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs/{job_id}/metering

Table 7-365 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-366 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-367 Response body parameters

Parameter	Type	Description
product_info_list	Array of objects	Resource information list. For details, see Table 7-368 .

Table 7-368 Data structure description of field **product_info_list**

Parameter	Type	Description
id	String	ID, which is used to identify the mapping between the inquiry result and the request and must be unique in an inquiry.
cloud_service_type	String	Specifies the service type code of the purchased product. For example, the service type code for EC2 is hws.service.type.ec2 .
resource_type	String	Specifies the resource type code of the purchased product. For example, the resource type code for VMs in EC2 is hws.resource.type.vm .
resource_spec_code	String	Specifies the resource specifications code of the purchased product. For example, the value for VMs of the small specifications is m1.tiny .
resource_size	Integer	Resource capacity measurement ID.
resource_size_measure_id	Integer	Specifies the resource capacity. It can be the subscribed volume size or bandwidth size.
usage_factor	String	Specifies the usage factor. This parameter is mandatory for a pay-per-use task. The value is the same as the usage factor of SDRs. The mappings between cloud services and usage factors are as follows: <ul style="list-style-type: none">● Duration: Cloud server● flow: traffic
usage_value	Double	Specifies the usage value. This parameter is mandatory for a pay-per-use task. For example, the resources are billed by hour, the usage value is 1 , and the usage measurement unit is hour.
usage_measurement_id	Integer	Specifies the usage measurement unit. This parameter is mandatory for a pay-per-use task. For example, the resources are billed by hour, the usage value is 1 , and the usage measurement unit is hour. <ul style="list-style-type: none">● 4: Hour● 10: GB● 11: MB● 13: Byte● 17: FLOW_GB

Status code: 400

Table 7-369 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Obtaining the task pricing details

`https://{endpoint}/v5/{project_id}/jobs/{job_id}/metering`

Example Response

Status code: 200

OK

```
{
  "product_info_list": [
    {
      "id": "78f3a9f1-3d8d-43f0-acc4-ee93f8a9d934",
      "cloud_service_type": "hws.service.type.drs",
      "resource_type": "hws.resource.type.drs.vm",
      "resource_spec_code": "drs.lg.dr",
      "resource_size": 1,
      "usage_factor": "Duration",
      "usage_value": 1,
      "usage_measure_id": 4
    },
    {
      "id": "f52a74ce-5b11-4c5b-b365-488d9fc38882",
      "cloud_service_type": "hws.service.type.drs",
      "resource_type": "hws.resource.type.drs.flow",
      "resource_spec_code": "drs.flow.free",
      "resource_size": 1,
      "usage_factor": "flow",
      "usage_value": 1,
      "usage_measure_id": 17
    }
  ]
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.M00202",
  "error_msg": "The value of parameter jobId is invalid."
}
```

Error Code

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

7.5.3 Querying the Abnormal Data List

Function

This API is used to query the abnormal data list.

Constraints

This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs/{job_id}/dirty-data

Table 7-370 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-371 Query parameters

Parameter	Mandatory	Type	Description
begin_time	No	Integer	Start time in UTC format, for example, 2020-09-01T18:50:20Z .
end_time	No	Integer	End time in UTC format, for example, 2020-09-01T19:50:20Z .
limit	No	String	Number of items displayed per page. The default value is 10 . The value ranges from 1 to 1000. Minimum value: 1 Maximum value: 1000 Default value: 10

Parameter	Mandatory	Type	Description
offset	No	String	Offset, which is the position where the query starts. The value must be greater than or equal to 0. The default value is 0 . Default value: 0

Request Parameters

Table 7-372 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-373 Response body parameters

Parameter	Type	Description
count	Integer	Total number.
dirty_data_list	Array of objects	List of abnormal data. For details, see Table 7-374 .

Table 7-374 dirty_data_list parameters

Parameter	Type	Description
db_name	String	Database name.
schema_name	String	Schema name.
table_name	String	Table name.
error_sql	String	Abnormal SQL statement.
error_time	String	UTC time when an exception occurs, for example, 2023-06-10T03:01:52Z .
error_msg	String	Exception information.

Status code: 400**Table 7-375** Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying the abnormal data list

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/163b98e8-6088-46c3-8b86-c18fea6jb502/dirty-data
```

Example Response

Status code: 200

Request Parameters

Table 7-377 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. The token is the value of X-Subject-Token in the response header.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

None

Example Request

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/operation-statistics/export
```

Example Response

Status code: 200

The response body is in the file stream format, and the downloaded file is in the .xlsx format.

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10000001",
```

```
"error_msg" : "Failed."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.5.5 Querying Monitoring Data

Function

This API is used to obtain task monitoring data.

URI

GET /v5/{project_id}/jobs/{job_id}/monitor-data

Table 7-378 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-379 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Response Parameters

Status code: 200**Table 7-380** Response body parameters

Parameter	Type	Description
bandwidth	String	EIP bandwidth. Unit: MB/s.
is_src_normal	Boolean	Whether the source database connection is normal.
is_dst_normal	Boolean	Whether the destination database connection is normal.
src_offset	String	Offset of the source database.
node_offset	String	Offset of the replication instance.
dst_offset	String	Offset of the destination database.
src_delay	Integer	Delay of the source database.

Parameter	Type	Description
dst_delay	Integer	Delay of the destination database.
src_rps	String	Source database RPS.
src_io	String	Source database I/O.
dst_rps	String	Destination database RPS.
dst_io	String	Destination database I/O.
trans_data	String	Amount of data to be migrated. Unit: MB
trans_lines	String	Number of rows to be migrated.
used_volumes	String	Storage space usage. Unit: GB
used_memory	String	Memory usage. Unit: MB
used_cpu_per cent	String	CPU usage.
node_volume _size	Integer	Total size of the node disk. Unit: GB
node_memory _size	Integer	Total size of the node memory. Unit: MB
update_time	String	Update time.
apply_rate	Integer	Synchronization speed. Unit: byte/s

Example Request

Querying task monitoring data

<https://{endpoint}/v5/04f9aca88c00d3202fd4c01ed679daf0/jobs/ee5ed538-90c6-4f70-bd2e-ac084abjb502/monitor-data>

Example Response

Status code: 200

OK

```
{
  "bandwidth" : "37",
  "is_src_normal" : true,
  "is_dst_normal" : true,
  "src_offset" : "mysql-bin.000646:196",
  "node_offset" : "mysql-bin.000646:196",
  "dst_offset" : "mysql-bin.000646:196",
  "src_delay" : 0,
  "dst_delay" : 0,
  "src_rps" : "0",
  "src_io" : "0.0",
  "dst_rps" : "0",
  "dst_io" : "0.0",
  "trans_data" : "0",
```

```
"trans_lines" : "29",  
"used_volumes" : "4",  
"used_memory" : "2124",  
"used_cpu_percent" : "1.4",  
"node_volume_size" : 500,  
"node_memory_size" : 8192,  
"update_time" : "2023-07-19T03:09:25Z",  
"apply_rate" : 0  
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

7.5.6 Querying Incremental Component Details

Function

This API is used to query details about incremental components for an incremental or full+incremental task. For details, see [Querying the Synchronization Progress](#).

Constraints

- This API is available only for data synchronization scenarios from Oracle to GaussDB Distributed, from Oracle to GaussDB Primary/Standby, from GaussDB Distributed to GaussDB Distributed, from GaussDB Distributed to MySQL, from GaussDB Distributed to GaussDB Primary/Standby, from GaussDB Distributed to GaussDB(DWS), GaussDB Distributed to Oracle, GaussDB Primary/Standby to GaussDB Primary/Standby, from GaussDB Primary/Standby to GaussDB Distributed, from GaussDB Primary/Standby to GaussDB(DWS), from GaussDB Primary/Standby to Oracle, from Oracle to GaussDB(DWS), and from Oracle to MySQL.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs/{job_id}/increment-components-detail

Table 7-381 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-382 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Response Parameters

Status code: 200

Table 7-383 Response body parameters

Parameter	Type	Description
update_time	String	Update time.
increment_components_list	Array of objects	Incremental component details. For details, see Table 7-384 .

Table 7-384 increment_components_list parameters

Parameter	Type	Description
type	String	Component type. The value can be: <ul style="list-style-type: none"> ● capture: capture component. ● apply: replay component. Enumerated values: <ul style="list-style-type: none"> ● capture ● apply
status	String	Status. <ul style="list-style-type: none"> ● STOPPED: The component is stopped. ● STARTED: The component is in progress. ● STOPPING: The component is being stopped. ● STARTING: The component is being started.
start_time	String	Start time.
start_point	String	Start position.
current_point	String	Current position.
resolution_time	String	Parsing time.
delay	String	Delay, in seconds.

Example Request

Querying the incremental component details

```
https://{endpoint}/v5/246765b9f59445c3919fce121ea801f4/jobs/429b9210-118d-4711-87cb-be8e2dejb201/increment-components-detail
```

Example Response

Status code: 200

OK


```
{
  "increment_components_list" : [ {
    "type" : "capture",
    "status" : "STARTED",
    "start_time" : "2023-07-19T03:09:25Z",
    "start_point" : "0;0|0",
    "current_point" : "0;0|0",
    "resolution_time" : "2023-07-19T03:09:25Z",
    "delay" : "2"
  }, {
    "type" : "apply",
    "status" : "STARTED",
    "start_time" : "2023-07-19T03:09:25Z",
    "start_point" : "-1",
    "current_point" : "0;0|0",
    "resolution_time" : "2023-07-19T03:09:25Z",
    "delay" : "3"
  } ],
  "update_time" : "2023-07-19T03:09:25Z"
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

7.6 Task Operations

7.6.1 Performing Operations on a Task with a Specified ID

Function

This API is used to perform operations on a task with a specified ID.

Constraints

- This API is available only for synchronization from MySQL to MySQL, migration from Redis to GeminiDB Redis, migration from cluster Redis to GeminiDB Redis, and synchronization from Oracle to GaussDB Distributed.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

POST /v5/{project_id}/jobs/{job_id}/action

Table 7-385 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .
job_id	Yes	String	Task ID. (In the multi-task scenario, this parameter is set to the value of master_job_id returned by the parent task details.)

Request Parameters

Table 7-386 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-387 Request body parameters

Parameter	Mandatory	Type	Description
job	Yes	Object	Operation on a single task. For details, see Table 7-388 .

Table 7-388 Data structure description of field **job**

Parameter	Mandatory	Type	Description
job_id	No	String	Task ID. (In the multi-task scenario, this parameter is set to the value of master_job_id returned by the parent task details.)

Parameter	Mandatory	Type	Description
action_name	Yes	String	<p>Name of an operation. Values:</p> <ul style="list-style-type: none"> • network: indicates the operation for testing the connection to the source or destination database. • precheck: indicates the operation for performing a precheck. • start: indicates the operation for starting a task. • stop: indicates the operation for pausing a task. • restart: indicates the operation for resuming a task. • reset: indicates the operation for resetting a task. • skip_precheck: indicates the operation for skipping the precheck. • create_compare: indicates the operation for creating a comparison task. • cancel_compare: indicates the operation for canceling a comparison task. • column_limit: indicates the operation for filtering fields. • reload_parameters: indicates the operation for reloading task parameters. • bind_eip: indicates operation for binding an EIP. • unbind_eip: indicates the operation for unbinding an EIP. • set_writable: indicates the operation for disabling read-only for the destination database.

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • cloud_connection: indicates the operation for testing the connectivity of workload replay from other clouds. <p>Enumerated values:</p> <ul style="list-style-type: none"> • network • precheck • start • stop • restart • reset • skip_precheck • create_compare • cancel_compare • column_limit • reload_parameters • bind_eip • unbind_eip • set_writable • cloud_connection
action_params	No	Object	Parameter of an operation. For details, see Table 7-389 .

Table 7-389 Data structure description of field **action_params**

Parameter	Mandatory	Type	Description
endpoints	No	Array of objects	Database information. For details, see Table 7-390 .
precheck_mode	No	String	Pre-check mode. This parameter is mandatory during pre-check. The values are as follows: <ul style="list-style-type: none"> • forStartJob: pre-check before starting a task. • forRetryJob: pre-check before editing a task. • forResetJob: pre-check before resetting a task.

Parameter	Mandatory	Type	Description
skip_precheck_info	No	Object	Parameter for skipped pre-check items. This parameter is mandatory when pre-check items are skipped. For details, see Table 7-397 .
pause_mode	No	String	Task pause mode. Set this parameter when a task is paused. To stop capturing logs of the source database, set the parameter to all . Default value: target .
start_time	No	String	Scheduled start time of a task.
compare_task_param	No	Object	Information body for performing operations on a comparison task. This parameter is mandatory when you perform operations on a comparison task. For details, see Table 7-398 .
is_sync_re_edit	No	Boolean	When you resume a task after editing it, set this parameter to true and action_name to restart .
force_delete	No	Boolean	When a task is forcibly stopped, set this parameter to true .
public_ip_config	No	Object	Public IP address of a tenant. For details, see Table 7-412 .
replay_config	No	Object	Workload replay parameter information. For details, see Table 7-404 .

Table 7-390 Data structure description of field endpoints

Parameter	Mandatory	Type	Description
db_type	Yes	String	<p>Database type. The value can be:</p> <ul style="list-style-type: none"> • oracle: Oracle. • gaussdbv5: GaussDB distributed. • redis: Redis. • rediscluster: Cluster Redis. • gaussredis: GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> • oracle • gaussdbv5 • redis • rediscluster • gaussredis
endpoint_type	Yes	String	<p>DB instance type. Values:</p> <ul style="list-style-type: none"> • offline: indicates an on-premises database. • ecs: indicates a database built on Huawei Cloud ECSs. • cloud: indicates a Huawei cloud database. <p>Enumerated values:</p> <ul style="list-style-type: none"> • offline • ecs • cloud
endpoint_role	Yes	String	<p>DB instance role. Values:</p> <ul style="list-style-type: none"> • so: indicates the source database. • ta: indicates the destination database. <p>Enumerated values:</p> <ul style="list-style-type: none"> • so • ta
endpoint	Yes	Object	<p>Basic information body of the database.</p> <p>For details, see Table 7-391.</p>

Parameter	Mandatory	Type	Description
cloud	No	Object	Region and project where a DB instance is located. For details, see Table 7-392 .
vpc	No	Object	Information about the VPC, subnet, and security group where a DB instance resides. For details, see Table 7-393 .
config	No	Object	Basic information body of database settings. For details, see Table 7-394 .
ssl	No	Object	Information body of the database SSL certificate. For details, see Table 7-395 .
customized_dns	No	Object	Custom DNS server. For details, see Table 7-396 .

Table 7-391 Data structure description of fields **endpoint** and **source_sharding**

Parameter	Mandatory	Type	Description
id	No	String	Database information ID.

Parameter	Mandatory	Type	Description
endpoint_name	Yes	String	<p>Database scenario type. The value can be:</p> <ul style="list-style-type: none"> • oracle: indicates the on-premises Oracle database. • ecs_oracle: indicates the Oracle database built on Huawei Cloud ECSs. • cloud_gaussdbv5: indicates the Huawei Cloud distributed GaussDB database. • mysql: indicates the MySQL database built on other clouds or on-premises MySQL database. • ecs_mysql: indicates the MySQL database built on Huawei Cloud ECSs. • cloud_mysql: indicates the Huawei Cloud RDS for MySQL database. • redis: On-premises Redis database. • ecs_redis: Redis database built on Huawei Cloud ECSs. • rediscluster: On-premises cluster Redis database. • ecs_rediscluster: Cluster Redis database built on Huawei Cloud ECSs. • cloud_gaussdb_redis: Huawei Cloud GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> • oracle • ecs_oracle • cloud_gaussdbv5 • mysql • ecs_mysql • cloud_mysql • redis • ecs_redis • rediscluster

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none">• <code>ecs_rediscluster</code>• <code>cloud_gaussdb_redis</code>

Parameter	Mandatory	Type	Description
ip	No	String	<p>Database IP address.</p> <p>Constraints:</p> <ul style="list-style-type: none"> • If an on-premises MongoDB database is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. A maximum of three IP addresses or domain names can be entered. • If a DDS instance is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. • If the database is a cluster Redis database, enter the IP addresses and port numbers of all shards in the source cluster Redis database. Use colons (:) to separate a database IP address and port number. Use commas (,) to separate multiple values. You are advised to enter the IP address of the slave node of a cluster shard. Up to 32 IP addresses or domain names can be entered. Use commas (,) to separate multiple IP addresses or domain names. <p>Example:</p> <ul style="list-style-type: none"> • MongoDB: 192.168.0.10:8080,192.168.0.11:8080,192.168.0.12:8080 • DDS: 192.168.205.130:8635,192.168.250.64:8635 • Cluster Redis: 192.168.0.1:8080,192.168.0.2:8080

Parameter	Mandatory	Type	Description
db_port	No	String	Database port. The value is an integer ranging from 1 to 65535.
db_user	Yes	String	Database username.
db_password	Yes	String	Database password.
instance_id	No	String	ID of a Huawei Cloud DB instance.
instance_name	No	String	Name of a Huawei Cloud DB instance.
db_name	No	String	Database name. Example: <ul style="list-style-type: none"> oracle: serviceName.orcl.
source_sharding	No	Array of objects	Information about the physical source database. For details, see Table 7-391 .

Table 7-392 Data structure description of field **cloud**

Parameter	Mandatory	Type	Description
region	Yes	String	Region ID. This parameter is mandatory when DB Instance Type is set to ecs (database built on Huawei Cloud ECSs) or cloud (Huawei cloud database). For details, see Regions and Endpoints . Note: If there are subprojects in a region, the region ID is a combination of the regional project ID and subproject ID, which are combined using an underscore (_).
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see "Obtaining a Project ID".
az_code	No	String	Name of the AZ where the database is located.

Table 7-393 Data structure description of field **vpc**

Parameter	Mandatory	Type	Description
vpc_id	Yes	String	ID of the VPC where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. Method 2: Call the API for querying VPCs. For details, see Querying VPCs .
subnet_id	Yes	String	ID of the subnet where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and click the target subnet on the Subnets page to view the network ID on the displayed page. Method 2: Call the API for querying subnets. For details, see Querying Subnets .
security_group_id	No	String	ID of the security group where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console. Choose Access Control > Security Groups in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page. Method 2: Call the API for querying security groups. For details, see Querying Security Groups .

Table 7-394 Data structure description of field **config**

Parameter	Mandatory	Type	Description
is_target_read_only	No	Boolean	Whether the destination DB instance is set to read-only. This parameter is available only when job_direction is set to up during MySQL migration and DR. In the DR scenario, this parameter is mandatory and set to true if the current cloud is the standby in single-active DR. If this parameter is not specified, the default value is true . Default value: true
node_num	No	Integer	Number of subtasks connected to the source cluster Redis instance for data migration from cluster Redis to GeminiDB Redis. The value ranges from 1 to 16 and cannot be greater than the number of shards in the source cluster Redis instance. Set this parameter based on the scale of the source cluster Redis instance. You are advised to set one subtask to connect to four shards in the source cluster Redis instance. Minimum value: 1 Maximum value: 16 Default value: 0

Table 7-395 Data structure description of field **ssl**

Parameter	Mandatory	Type	Description
ssl_link	No	Boolean	Whether SSL is enabled. If SSL is enabled, the value of this parameter is true .
ssl_cert_name	No	String	SSL certificate name.
ssl_cert_key	No	String	SSL certificate content, which is encrypted using Base64.

Parameter	Mandatory	Type	Description
ssl_cert_check_sum	No	String	The checksum value of the SSL certificate, which is used for backend verification. This parameter is mandatory for secure connection to the source database.
ssl_cert_password	No	String	SSL certificate password. This parameter is mandatory if the certificate file name extension is .p12.

Table 7-396 Data structure description of field **customized_dns**

Parameter	Mandatory	Type	Description
is_set_dns	Yes	Boolean	Specifies whether to set your own DNS server.
set_dns_action	Yes	String	Behavior of setting your own DNS server. <ul style="list-style-type: none"> • add: Add a customized DNS server IP address. • keep: Retain the DNS server IP address. • update: Update the customized DNS server IP address. (The update takes effect when the DNS server IP address changes.) • recover: Restore the default DNS server IP address. (Restoration may cause domain name resolution failures. Exercise caution when performing this operation.) Enumerated values: <ul style="list-style-type: none"> • add • keep • update • recover
dns_ip	Yes	String	DNS server IP address. Minimum length: 0 Maximum length: 15

Table 7-397 Data structure description of field **skip_precheck_info**

Parameter	Mandatory	Type	Description
skipped_precheck_list	Yes	Array of strings	Skipped pre-check item.
skip_reason	Yes	String	Reason for skipping the pre-check item.

Table 7-398 Data structure description of field **compare_task_param**

Parameter	Mandatory	Type	Description
compare_task_id	No	String	This parameter is mandatory for canceling a comparison task.
type	No	String	Comparison task mode. Values: <ul style="list-style-type: none"> ● object: object-level comparison. ● lines: row comparison. ● contents: value comparison. Enumerated values: <ul style="list-style-type: none"> ● object ● lines ● contents
start_time	No	String	Scheduled start time, in timestamp format.
option	No	Map<String,String>	Comparison policy.
db_object	No	Map<String,DatabaseObject>	Comparison object. For details, see Table 7-408 .
data_processing_info	No	Array of objects	Request body for updating a data processing rule. For details, see Table 7-399 .

Table 7-399 Data structure description of field **data_process_info**

Parameter	Mandatory	Type	Description
filter_conditions	No	Array of objects	Request body for data processing rules for a specified task. For details, see Table 7-400 .
is_batch_process	No	Boolean	The value is true for database-level and batch table-level data processing and false for single-table data processing.
add_columns	No	Array of objects	Additional column. This parameter is mandatory when adding additional columns is required. Note: You must use additional columns to avoid data conflicts in many-to-one operations. For details, see Table 7-401 .
ddl_operation	No	Map<String,String>	DDL operations to be migrated or synchronized in an incremental task. If this parameter is set to table , DDL operations including CREATE TABLE, ALTER TABLE, DROP TABLE, and RENAME TABLE can be migrated or synchronized. If this parameter is left blank, DDL operations cannot be migrated or synchronized.
dml_operation	No	String	DML operations to be migrated or synchronized. <ul style="list-style-type: none"> • i: INSERT • u: UPDATE • d: DELETE If this parameter is left blank, DML operations cannot be migrated or synchronized in an incremental task.

Parameter	Mandatory	Type	Description
db_object_column_info	No	Object	Column mapping and filtering information. This parameter is mandatory when column mapping and filtering information is required. For details, see Table 7-402 .
db_or_table_rename_rule	No	Object	Database table mapping rule. For details, see Table 7-405 .
db_object	No	Object	Data processing object information, which is mandatory when column mapping and data filtering conditions are verified. For details, see Table 7-406 .
is_synchronized	No	Boolean	Whether the rule has been synchronized to the destination database.
source	No	String	Comparison source. <ul style="list-style-type: none">● job: indicates the data filtering during synchronization.● compare: indicates the data filtering during comparison. Enumerated values: <ul style="list-style-type: none">● job● compare

Table 7-400 Data structure description of field **filter_conditions**

Parameter	Mandatory	Type	Description
value	No	String	Filtering condition. When filtering_type is set to configConditionalFilter , the default value is config . When filtering_type is set to contentConditionalFilter , the default value is the filtering condition.

Parameter	Mandatory	Type	Description
			<p>NOTE</p> <ul style="list-style-type: none"> • Each table has only one verification rule. • Up to 500 tables can be filtered at a time. • Standard SQL statements can be used to filter records. Each expression cannot contain packages, functions, variables, or constants specific to a database engine. • Enter the part following WHERE in the SQL statement (excluding WHERE and semicolons), for example, sid > 3 and sname like "G %". A maximum of 512 characters are allowed. • In SQL statements for setting filter criteria, keywords must be enclosed in backquotes, and the value of datetime (including date and time) must be enclosed in single quotation marks, for example, `update` > '2022-07-13 00:00:00' and age >10. • Filter criteria cannot be configured for large objects, such as CLOB, BLOB, and BYTEA. • Filtering rules cannot be set for objects whose database names and table names contain newline characters. • You are not advised to set filter criteria for fields of approximate numeric types, such as FLOAT, DECIMAL, and DOUBLE. • Do not use fields containing special characters as a filter condition. • You are not advised to use non-idempotent expressions or functions as data processing conditions, such as SYSTIMESTAMP and SYSDATE, because the returned result may be different each time the function is called.

Parameter	Mandatory	Type	Description
filtering_type	No	String	Filter condition type. <ul style="list-style-type: none"> • contentConditionalFilter: simple condition-based filtering. • configConditionalFilter: association table filtering. Enumerated values: <ul style="list-style-type: none"> • contentConditionalFilter • configConditionalFilter

Table 7-401 Data structure description of field **add_columns**

Parameter	Mandatory	Type	Description
column_type	No	String	Column type.
column_name	No	String	Column name.
column_value	No	String	Column value.
data_type	No	String	Data type of a column.

Table 7-402 Data structure description of field **db_object_column_info**

Parameter	Mandatory	Type	Description
db_name	No	String	Database name.
schema_name	No	String	Schema name.
table_name	No	String	Table name.
column_infos	No	Array of objects	Column information. For details, see Table 7-403 .
total_count	No	Integer	Total number of database column records, which is irrelevant to pagination and is used only as a return body parameter.

Table 7-403 Data structure description of field **column_infos**

Parameter	Mandatory	Type	Description
column_name	No	String	Column name.

Parameter	Mandatory	Type	Description
column_type	No	String	Column type.
primary_key_or_unique_index	No	String	Primary key or unique index.
column_mapped_name	No	String	Mapped column name.
is_filtered	No	Boolean	Whether the column is filtered.
is_partition_key	No	Boolean	Whether the column is a partition column.

Table 7-404 Data structure description of field **replay_config**

Parameter	Mandatory	Type	Description
db_instance_id	Yes	String	Source instance ID.
cloud_type	Yes	String	Cloud type. <ul style="list-style-type: none"> • AWSCloud: AWS Cloud. • TencentCloud: Tencent Cloud. • AliCloud: Alibaba Cloud. Enumerated values: <ul style="list-style-type: none"> • AWSCloud • TencentCloud • AliCloud
ak	Yes	String	AK information of other clouds.
sk	Yes	String	SK information of other clouds.

Parameter	Mandatory	Type	Description
db_source	Yes	String	Source of the source database. The value can be: <ul style="list-style-type: none"> • aws_aurora_mysql: Amazon Aurora MySQL. • tencent_tdsq_c: Tencent Cloud TDSQL-C MySQL. • ali_rds_mysql: Alibaba Cloud ApsaraDB RDS for MySQL. Enumerated values: <ul style="list-style-type: none"> • aws_aurora_mysql • tencent_tdsq_c • ali_rds_mysql
region	Yes	String	Region name of other clouds.
traffic_source	Yes	String	Workload file source. <ul style="list-style-type: none"> • sdk: Download audit logs through third-party cloud APIs.

Table 7-405 Data structure description of field **db_or_table_rename_rule**

Parameter	Mandatory	Type	Description
prefix_name	No	String	Prefix name. When type is set to prefixAndSuffix , this parameter is mandatory, and only a prefix is added to the database table name. If suffix_name is also specified, both a prefix and a suffix are added to the database table name.
suffix_name	No	String	Suffix name. When type is set to prefixAndSuffix , this parameter is mandatory, and only a suffix is added to the database table name. If prefix_name is also specified, both a prefix and a suffix are added to the database table name.

Parameter	Mandatory	Type	Description
type	No	String	Database table mapping type. prefixAndSuffix : prefix, suffix, or prefix and suffix. Enumerated values: <ul style="list-style-type: none"> • prefixAndSuffix • manyToOne

Table 7-406 Data structure description of field **db_object**

Parameter	Mandatory	Type	Description
object_scope	Yes	String	Migration or synchronization object scope. The value can be: <ul style="list-style-type: none"> • all: Migrate or synchronize all objects. • database: database-level migration or synchronization. • table: table-level migration or synchronization. Enumerated values: <ul style="list-style-type: none"> • all • database • table
target_root_db	No	object	Destination database for database object migration or synchronization. This parameter is mandatory for database synchronization from Layer 2 to Layer 3. For details, see Table 7-407 .
object_info	No	Map<String, DatabaseObject>	Object information for migration or synchronization. If object_scope is set to all , leave this parameter blank. If object_scope is set to database or table , this parameter is mandatory. For details, see Table 7-408 .

Table 7-407 Data structure description of field **target_root_db**

Parameter	Mandatory	Type	Description
db_name	No	String	Database name.
db_encoding	No	String	Encoding format. The default value is UTF-8 .

Table 7-408 Data structure description of field **db_object**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the database in real-time synchronization. Values: config : This parameter is mandatory only when the database is used as an association database in advanced settings for data filtering. In this case, the database and its schemas and tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in schemas and tables . NOTE To synchronize the database-level object, set sync_type to config for the lower-level object. Enumerated values: <ul style="list-style-type: none"> • config
name	No	String	Name of the database in the destination database (database name mapping).

Parameter	Mandatory	Type	Description
all	No	Boolean	<p>Whether to migrate or synchronize the entire database.</p> <p>NOTE</p> <ul style="list-style-type: none"> • If data filtering, column filtering, and column mapping are required for schemas, tables, and columns in the database, set this parameter to false. Otherwise, set this parameter to true. • If additional columns are required for tables in the database, set this parameter to true and enter additional column information in columns of table-level objects. • If the table columns in the database are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
schemas	No	Map<String, SchemaObject >	<p>Schema to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-409.</p>
tables	No	Map<String, TableObject>	<p>Table to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-410.</p>
total_table_num	No	Integer	<p>Number of tables in the database. If the number of tables exceeds the threshold, this parameter is not displayed.</p>
is_synchronized	No	Boolean	<p>Whether synchronization has been performed.</p>

Table 7-409 Data structure description of field **schemas**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the schema in real-time synchronization. Values: config : This parameter is mandatory only when the schema is used as an association schema in advanced settings for data filtering. In this case, the schema and its tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in tables . NOTE To synchronize the schema-level object, set sync_type to config for the lower-level object.
name	No	String	Name of the schema in the destination database (schema name mapping).
all	No	Boolean	Whether to migrate or synchronize the entire schema. NOTE <ul style="list-style-type: none"> If data filtering, column filtering, and column mapping are required for tables and columns in the schema, set this parameter to false. Otherwise, set this parameter to true. If additional columns are required for tables in the schema, set this parameter to true and enter additional column information in columns of table-level objects. If the table columns in the schema are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.

Parameter	Mandatory	Type	Description
tables	No	Map<String, TableObject >	Table to be migrated or synchronized. This parameter is mandatory when all is set to false . For details, see Table 7-410 .

Table 7-410 Data structure description of field **tables**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the table in real-time synchronization. Values: config : This parameter is mandatory only when the table is used as an association table in advanced settings for data filtering. In this case, the table and its columns will not be synchronized to the destination database. The name , all , filtered , and filter_conditions parameters do not take effect. Enter the associated objects in columns and the configuration criteria in advanced settings for data filtering in config_conditions . NOTE To synchronize the table-level object, set sync_type to config for the lower-level object.
type	No	String	Object type. Values: <ul style="list-style-type: none"> ● table: indicates a table. ● view: indicates a view. ● procedure: indicates a stored procedure. Enumerated values: <ul style="list-style-type: none"> ● table ● view ● procedure
name	No	String	Name of the table in the destination database (table name mapping).

Parameter	Mandatory	Type	Description
all	No	Boolean	<p>Whether to migrate or synchronize the entire table.</p> <p>NOTE</p> <ul style="list-style-type: none"> If column filtering and column mapping are not required for the table, set this parameter to true. Otherwise, set this parameter to false. If additional columns are required for the table, set this parameter to true and enter additional column information in columns. If the table columns are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
db_alias_name	No	String	Mapping of database names at the table level in the one-to-many scenario.
schema_alias_name	No	String	Mapping of schema names at the table level in the one-to-many scenario.
filtered	No	Boolean	Whether to filter data in the table.
filter_conditions	No	Array of strings	<p>Filtering criteria for the table data. The processing rule value is a SQL statement. The value contains a maximum of 512 characters.</p> <p>Minimum length: 0 Maximum length: 512</p>

Parameter	Mandatory	Type	Description
config_conditions	No	Array of strings	Configuration criteria in advanced settings for data filtering of the table. This parameter is mandatory when the table is used as an association table for query. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512
is_synchronized	No	Boolean	Whether synchronization has been performed.
columns	No	Map<String,ColumnObject>	Columns to be synchronized, mapped, filtered, or added. This parameter is mandatory when column filtering, column mapping, and additional columns are required. This parameter takes effect only in real-time synchronization tasks. This parameter is mandatory when all is set to false . For details, see Table 7-411 .

Table 7-411 Data structure description of field **columns**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the column in real-time synchronization. Values: config : This parameter is mandatory only when the column is used as an association column in advanced settings for data filtering. If the column is a primary key column or index column required for optimizing the query, primary_key_for_data_filtering or index_for_data_filtering is mandatory. NOTE Whether to synchronize the column to the destination database depends on the filtered parameter, which is different from the database, schema, and table-level synchronization.
primary_key_for_data_filtering	No	String	Whether the column is a primary key column in advanced settings for data filtering. If the column is a primary key column, set this parameter to the column name. Otherwise, leave this parameter blank.
index_for_data_filtering	No	String	Whether the column is an index column required for optimizing the query. The index is added to the cached data. It does not affect the source table. If the column is an index column in advanced settings for data filtering, this parameter is mandatory. Otherwise, leave this parameter blank.

Parameter	Mandatory	Type	Description
name	No	String	Name of the column in the destination database (column name mapping). If the column is an additional column, the value must be the same as the column name in the table-level object.
type	No	String	Data type of the column. Column filtering: Enter the data type of the source column. Additional column adding: Enter the data type of the new column. The values and constraints vary depending on the operation type. Values: <ul style="list-style-type: none"> • Default: The value can be int, long, varchar(256), datetime, or timestamp. • create_time: The value can be long, datetime, or timestamp. • update_time: The value can be long, datetime, or timestamp. • Expression: The value can be varchar (256), and the column value must be concat(_current_database, '@', _current_table). • serverName@database@table: The value can be varchar(256).
primary_key_for_column_filtering	No	String	Whether the column is a primary key column in column mapping. If the column is a primary key column, set this parameter to PRI . Otherwise, leave this parameter blank.

Parameter	Mandatory	Type	Description
filtered	No	Boolean	Whether the column is filtered out. This parameter cannot be used together with the additional parameter. Values: <ul style="list-style-type: none"> • true: indicates that the column will be synchronized. • false: indicates that the column is filtered out and will not be synchronized.
additional	No	Boolean	Whether the column is an additional column. If the column is an additional column, the value of name must be the same as the column name in the table-level object and cannot be used together with the filtered parameter.
operation_type	No	String	Operation type. The new column is filled with a specific operation type. Values: <ul style="list-style-type: none"> • Default: "operation_type":"ADDITIONALCOLUMN,default_value" • create_time: "operation_type":"ADDITIONALCOLUMN,create_time" • update_time: "operation_type":"ADDITIONALCOLUMN,update_time" • Expression: "operation_type":"ADDITIONALCOLUMN,expression" • serverName@database@table: "operation_type":"ADDITIONALCOLUMN,server_database_table"

Parameter	Mandatory	Type	Description
value	No	String	Value of the additional column. Note: <ul style="list-style-type: none"> This parameter is mandatory only when operation type is set to Default or serverName@database@table. When operation type is set to Expression, this parameter has a fixed value of concat(_current_database, '@', _current_table).

Table 7-412 Data structure description of field **public_ip_config**

Parameter	Mandatory	Type	Description
id	Yes	String	ID of a specified EIP.
public_ip	Yes	String	EIP.
type	Yes	String	Type of a task with an EIP bound. <ul style="list-style-type: none"> In a primary/standby task, master indicates the primary task, and slave indicates the standby task. In other cases, the value is fixed to master. Enumerated values: <ul style="list-style-type: none"> master slave

Response Parameters

Status code: 200

Table 7-413 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512
id	String	Task ID.
name	String	Task name.
status	String	Operation result.

Status code: 202

Table 7-414 Response body parameters

Parameter	Type	Description
query_id	String	Query ID of the asynchronous operation task.

Status code: 400

Table 7-415 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

- Performing a precheck (asynchronous calling)
<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/action>

```
{
  "job" : {
    "action_name" : "precheck",
```

```
"action_params" : {
  "precheck_mode" : "forStartJob"
}
}
```

- Testing the connection to the destination database (asynchronous calling)

<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/action>

```
{
  "job" : {
    "action_name" : "network",
    "action_params" : {
      "endpoints" : [ {
        "db_type" : "gaussdbv5",
        "endpoint_type" : "cloud",
        "endpoint_role" : "ta",
        "endpoint" : {
          "endpoint_name" : "cloud_gaussdbv5",
          "instance_id" : "c2c7579bc09c490b9d8009db715aeb0ain14",
          "db_user" : "root",
          "db_password" : "*****"
        }
      },
      "cloud" : {
        "region" : "cn-north-4",
        "project_id" : "9dc8c0f3f74c4dbb23c29cf0318ee561",
        "az_code" : "cn-north-4a,cn-north-4g,cn-north-4c"
      },
      "vpc" : {
        "vpc_id" : "2cb5d364-ae63-4fbb-85b7-7d59f4a88f8f",
        "subnet_id" : "2cb54324-ae63-4fbb-85b7-7d59f4a88f8f",
        "security_group_id" : "039a3s89-665a-43e2-9b4f-bda7d9ee148d"
      }
    }
  }
}
```

- Testing the connection to the source database (asynchronous calling)

<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/action>

```
{
  "job" : {
    "action_name" : "network",
    "action_params" : {
      "endpoints" : [ {
        "db_type" : "oracle",
        "endpoint_type" : "offline",
        "endpoint_role" : "so",
        "endpoint" : {
          "endpoint_name" : "oracle",
          "ip" : "10.154.217.239",
          "db_port" : "1521",
          "db_user" : "ORACLE_USER",
          "db_password" : "*****",
          "id" : "971e1840-9395-4044-b6c8-00ef1f83ce48",
          "db_name" : "serviceName.orcl"
        }
      },
      "ssl" : {
        "ssl_link" : false
      }
    }
  }
}
```

- Creating an object comparison task (asynchronous calling)

<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/d0f96c1d-571f-4b63-98a5-3b85b36jb20r/action>

```
{
  "job" : {
    "action_name" : "create_compare",
    "action_params" : {
      "compare_task_param" : {
        "type" : "object"
      }
    }
  }
}
```

- **Creating a row comparison task (asynchronous calling)**

<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/d0f96c1d-571f-4b63-98a5-3b85b36jb20r/action>

```
{
  "job" : {
    "action_name" : "create_compare",
    "action_params" : {
      "compare_task_param" : {
        "type" : "lines",
        "option" : {
          "comparePolicy" : "normal"
        },
        "db_object" : {
          "db1" : {
            "name" : "db1",
            "tables" : {
              "table1" : {
                "name" : "table1"
              }
            }
          }
        }
      }
    }
  }
}
```

- **Starting a task upon its creation**

<https://{endpoint}/v5/0/jobs/d0f96c1d-571f-4b63-98a5-3b85b36jb20r/action>

```
{
  "job": {
    "action_name": "start",
    "action_params": {}
  }
}
```

- **Pausing a task**

<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/d0f96c1d-571f-4b63-98a5-3b85b36jb20r/action>

```
{
  "job": {
    "action_name": "stop",
    "action_params": {}
  }
}
```

- **Resuming a task**

<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/d0f96c1d-571f-4b63-98a5-3b85b36jb20r/action>

```
{
  "job": {
    "action_name": "restart",
    "action_params": {}
  }
}
```

- Resetting a task**
<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/d0f96c1d-571f-4b63-98a5-3b85b36jb20r/action>

```
{
  "job": {
    "action_name": "reset",
    "action_params": {}
  }
}
```
- Skipping the pre-check**
<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/d0f96c1d-571f-4b63-98a5-3b85b36jb20r/action>

```
{
  "job": {
    "action_name": "skip_precheck",
    "action_params": {
      "skip_precheck_info": {
        "skipped_precheck_list": [
          "MysqlForeignKeyReferentialActionCheck"
        ],
        "skip_reason": "test11111"
      }
    }
  }
}
```
- Binding an EIP to a DB instance**
<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/d0f96c1d-571f-4b63-98a5-3b85b36jb20r/action>

```
{
  "job" : {
    "action_name" : "bind_eip",
    "action_params" : {
      "public_ip_config" : {
        "id" : "018d9e56-26d5-455a-97dc-e6f5f44a2cbd",
        "public_ip" : "*****",
        "type" : "master"
      }
    }
  }
}
```
- Unbinding an EIP from a DB instance**
<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/d0f96c1d-571f-4b63-98a5-3b85b36jb20r/action>

```
{
  "job" : {
    "action_name" : "unbind_eip"
  }
}
```
- Testing the connectivity of other clouds**
<https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/6c65eafc-b359-403b-b2fb-9f5fc58jb601/action>

```
{
  "job" : {
    "action_name" : "cloud_connection",
    "action_params" : {
      "replay_config" : {
        "ak" : "*****",
        "sk" : "*****",
        "traffic_source" : "sdk",
        "db_instance_id" : "data-anniversary-cluster",
        "cloud_type" : "AWScloud",
        "region" : "ap-northeast-3",

```

```
    "db_source": "aws_aurora_mysql"  
  }  
}  
}
```

Example Response

Status code: 200

OK

```
{  
  "status": "success"  
}
```

Status code: 202

Accepted

```
{  
  "query_id": "c5c1ffb3-c902-4b31-a606-dfa1231831f9"  
}
```

Status code: 400

Bad Request

```
{  
  "error_code": "DRS.10000010",  
  "error_msg": "Job does not exist, please check job id."  
}
```

Status Code

Status Code	Description
200	OK
202	Accepted
400	Bad Request

Error Code

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

7.6.2 Collecting Database Position Information

Function

This API is used to collect database position information.

Constraints

- This API is available only for data synchronization from MySQL to GaussDB(DWS).

- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

POST /v5/{project_id}/jobs/{job_id}/collect-db-position

Table 7-416 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-417 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">en-uszh-cn

Table 7-418 Request body parameters

Parameter	Mandatory	Type	Description
reset_position_time	Yes	String	Position in time to be set, in UTC time format. Example: 2023-09-19T07:00:00Z

Response Parameters

Status code: 202

Table 7-419 Response body parameters

Parameter	Type	Description
id	String	Query result ID.
job_id	String	Task ID.
status	String	Query status. Enumerated values: <ul style="list-style-type: none"> • pending • failed • success

Status code: 400

Table 7-420 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Collecting database position information (asynchronous calling)

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/collect-position
{
```

```
"reset_position_time" : "2023-09-19T07:00:00Z"  
}
```

Example Response

Status code: 202

Accepted

```
{  
  "id" : "0eacda0b-9422-4535-8b62-537d1833638b",  
  "job_id": "177738d1-4eee-4fcb-a4e1-09aea79jb20i",  
  "status" : "pending"  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "DRS.10000010",  
  "error_msg" : "Job does not exist, please check job id."  
}
```

Status Code

Status Code	Description
202	Accepted
400	Bad Request

Error Code

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

7.6.3 Stopping a Task

Function

This API is used to stop a task with a specified ID.

URI

POST /v5/{project_id}/jobs/{job_id}/stop

Table 7-421 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.

Request Parameters

Table 7-422 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-423 Request body parameters

Parameter	Mandatory	Type	Description
is_force_stop	No	Boolean	Set this parameter to true when a task is forcibly stopped. The default value is false . Default value: false

Response Parameters

Status code: 200

Table 7-424 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512
id	String	Task ID.
name	String	Task name.
status	String	Operation result.

Status code: 400

Table 7-425 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Stopping a task in the asynchronous mode

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/stop
{
  "is_force_stop" : true
}
```

Example Response

Status code: 200

```
{
  "status": "success"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.10000010",
  "error_msg": "Job does not exist, please check job id."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.6.4 Batch Performing Operations on Tasks with Specified IDs

Function

This API is used to batch perform operations on tasks with specified IDs.

Constraints

- This API is available only for synchronization from MySQL to MySQL, migration from Redis to GeminiDB Redis, migration from cluster Redis to GeminiDB Redis, and synchronization from Oracle to GaussDB Distributed.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

POST /v5/{project_id}/jobs/action

Table 7-426 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 7-427 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-428 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	Request body for performing operations on tasks in batches. For details, see Table 7-429 .

Table 7-429 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
job_id	No	String	Task ID. This parameter is mandatory for batch operations. In the multi-task scenario, this parameter is set to the value of master_job_id returned by the parent task details.

Parameter	Mandatory	Type	Description
action_name	Yes	String	<p>Name of an operation.</p> <p>Values:</p> <ul style="list-style-type: none"> ● network: indicates the operation for testing the connection to the source or destination database. ● precheck: indicates the operation for performing a precheck. ● start: indicates the operation for starting a task. ● stop: indicates the operation for pausing a task. ● restart: indicates the operation for resuming a task. ● reset: indicates the operation for resetting a task. ● skip_precheck: indicates the operation for skipping the precheck. ● create_compare: indicates the operation for creating a comparison task. ● cancel_compare: indicates the operation for canceling a comparison task. ● column_limit: indicates the operation for filtering fields. ● reload_parameters: indicates the operation for reloading task parameters. ● bind_eip: indicates operation for binding an EIP. ● unbind_eip: indicates the operation for unbinding an EIP. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● network ● precheck

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none"> • start • stop • restart • reset • skip_precheck • create_compare • cancel_compare • column_limit • reload_parameters • bind_eip • unbind_eip
action_params	No	Object	Parameter of an operation. For details, see Table 7-430 .

Table 7-430 Data structure description of field **action_params**

Parameter	Mandatory	Type	Description
endpoints	No	Array of objects	Database information. For details, see Table 7-431 .
precheck_mode	No	String	Pre-check mode.
skip_precheck_info	No	Object	Parameter for skipped pre-check items. For details, see Table 7-438 .
pause_mode	No	String	Task pause mode. Set this parameter when a task is paused. To stop capturing logs of the source database, set the parameter to all . Default value: target .
start_time	No	String	Scheduled start time of a task.
compare_task_param	No	Object	Information body for performing operations on a comparison task. For details, see Table 7-439 .
is_sync_re_edit	No	Boolean	Set this parameter to true when you resume a task after editing it.

Parameter	Mandatory	Type	Description
force_delete	No	Boolean	Set this parameter to true when a task is forcibly stopped.
public_ip_config	No	Object	Public IP address of a tenant. For details, see Table 7-452 .
replay_config	No	Object	Workload replay parameter information. For details, see Table 7-453 .

Table 7-431 Data structure description of field endpoints

Parameter	Mandatory	Type	Description
db_type	Yes	String	Database type. The value can be: <ul style="list-style-type: none"> • oracle: Oracle. • gaussdbv5: GaussDB distributed. • redis: Redis. • rediscluster: Cluster Redis. • gaussredis: GeminiDB Redis. Enumerated values: <ul style="list-style-type: none"> • oracle • gaussdbv5 • redis • rediscluster • gaussredis
endpoint_type	Yes	String	DB instance type. Values: <ul style="list-style-type: none"> • offline: indicates an on-premises database. • ecs: indicates a database built on Huawei Cloud ECSs. • cloud: indicates a Huawei cloud database. Enumerated values: <ul style="list-style-type: none"> • offline • ecs • cloud

Parameter	Mandatory	Type	Description
endpoint_role	Yes	String	DB instance role. Values: <ul style="list-style-type: none"> • so: indicates the source database. • ta: indicates the destination database. Enumerated values: <ul style="list-style-type: none"> • so • ta
endpoint	Yes	Object	Basic information body of the database. For details, see Table 7-432 .
cloud	No	Object	Region and project where a DB instance is located. For details, see Table 7-433 .
vpc	No	Object	Information about the VPC, subnet, and security group where a DB instance resides. For details, see Table 7-434 .
config	No	Object	Basic information body of database settings. For details, see Table 7-435 .
ssl	No	Object	Information body of the database SSL certificate. For details, see Table 7-436 .
customized_dns	No	Object	Custom DNS server. For details, see Table 7-437 .

Table 7-432 Data structure description of fields **endpoint** and **source_sharding**

Parameter	Mandatory	Type	Description
id	No	String	Database information ID.

Parameter	Mandatory	Type	Description
endpoint_name	Yes	String	<p>Database scenario type. The value can be:</p> <ul style="list-style-type: none"> • oracle: indicates the on-premises Oracle database. • ecs_oracle: indicates the Oracle database built on Huawei Cloud ECSs. • cloud_gaussdbv5: indicates the Huawei Cloud distributed GaussDB database. • mysql: indicates the MySQL database built on other clouds or on-premises MySQL database. • ecs_mysql: indicates the MySQL database built on Huawei Cloud ECSs. • cloud_mysql: indicates the Huawei Cloud RDS for MySQL database. • redis: On-premises Redis database. • ecs_redis: Redis database built on Huawei Cloud ECSs. • rediscluster: On-premises cluster Redis database. • ecs_rediscluster: Cluster Redis database built on Huawei Cloud ECSs. • cloud_gaussdb_redis: Huawei Cloud GeminiDB Redis. <p>Enumerated values:</p> <ul style="list-style-type: none"> • oracle • ecs_oracle • cloud_gaussdbv5 • mysql • ecs_mysql • cloud_mysql • redis • ecs_redis • rediscluster

Parameter	Mandatory	Type	Description
			<ul style="list-style-type: none">• <code>ecs_rediscluster</code>• <code>cloud_gaussdb_redis</code>

Parameter	Mandatory	Type	Description
ip	No	String	<p>Database IP address.</p> <p>Constraints:</p> <ul style="list-style-type: none"> • If an on-premises MongoDB database is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. A maximum of three IP addresses or domain names can be entered. • If a DDS instance is used, use colons (:) to separate the database IP address and port number, and use commas (,) to separate multiple values. • If the database is a cluster Redis database, enter the IP addresses and port numbers of all shards in the source cluster Redis database. Use colons (:) to separate a database IP address and port number. Use commas (,) to separate multiple values. You are advised to enter the IP address of the slave node of a cluster shard. Up to 32 IP addresses or domain names can be entered. Use commas (,) to separate multiple IP addresses or domain names. <p>Example:</p> <ul style="list-style-type: none"> • MongoDB: 192.168.0.10:8080,192.168.0.11:8080,192.168.0.12:8080 • DDS: 192.168.205.130:8635,192.168.250.64:8635 • Cluster Redis: 192.168.0.1:8080,192.168.0.2:8080

Parameter	Mandatory	Type	Description
db_port	No	String	Database port. The value is an integer ranging from 1 to 65535.
db_user	Yes	String	Database username.
db_password	Yes	String	Database password.
instance_id	No	String	ID of a Huawei Cloud DB instance.
instance_name	No	String	Name of a Huawei Cloud DB instance.
db_name	No	String	Database name. Example: <ul style="list-style-type: none">oracle: serviceName.orcl.
source_sharding	No	Array of objects	Information about the physical source database. For details, see Table 7-432 .

Table 7-433 Data structure description of field **cloud**

Parameter	Mandatory	Type	Description
region	Yes	String	Region ID. This parameter is mandatory when DB Instance Type is set to ecs (database built on Huawei Cloud ECSs) or cloud (Huawei cloud database). For details, see Regions and Endpoints . Note: If there are subprojects in a region, the region ID is the combination of regional project ID and subproject ID, which are combined using an underscore (_).
project_id	Yes	String	Project ID of a tenant in a region. For details about how to obtain the project ID, see "Obtaining a Project ID".
az_code	No	String	Name of the AZ where the database is located.

Table 7-434 Data structure description of field **vpc**

Parameter	Mandatory	Type	Description
vpc_id	Yes	String	ID of the VPC where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. Method 2: Call the API for querying VPCs. For details, see Querying VPCs .
subnet_id	Yes	String	ID of the subnet where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console and click the target subnet on the Subnets page to view the network ID on the displayed page. Method 2: Call the API for querying subnets. For details, see Querying Subnets .
security_group_id	No	String	ID of the security group where a DB instance is located. To obtain the ID, perform the following steps: Method 1: Log in to the VPC console. Choose Access Control > Security Groups in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page. Method 2: Call the API for querying security groups. For details, see Querying Security Groups .

Table 7-435 Data structure description of field **config**

Parameter	Mandatory	Type	Description
is_target_read_only	No	Boolean	Whether the destination DB instance is set to read-only. This parameter is available only when job_direction is set to up during MySQL migration and DR. In the DR scenario, this parameter is mandatory and set to true if the current cloud is the standby in single-active DR. If this parameter is not specified, the default value is true . Default value: true
node_num	No	Integer	Number of subtasks connected to the source cluster Redis instance for data migration from cluster Redis to GeminiDB Redis. The value ranges from 1 to 16 and cannot be greater than the number of shards in the source cluster Redis instance. Set this parameter based on the scale of the source cluster Redis instance. You are advised to set one subtask to connect to four shards in the source cluster Redis instance. Minimum value: 1 Maximum value: 16 Default value: 0

Table 7-436 Data structure description of field **ssl**

Parameter	Mandatory	Type	Description
ssl_link	No	Boolean	Whether SSL is enabled. If SSL is enabled, the value of this parameter is true .
ssl_cert_name	No	String	SSL certificate name.
ssl_cert_key	No	String	SSL certificate content, which is encrypted using Base64.

Parameter	Mandatory	Type	Description
ssl_cert_check_sum	No	String	The checksum value of the SSL certificate, which is used for backend verification. This parameter is mandatory for secure connection to the source database.
ssl_cert_password	No	String	SSL certificate password. This parameter is mandatory if the certificate file name extension is .p12.

Table 7-437 Data structure description of field **customized_dns**

Parameter	Mandatory	Type	Description
is_set_dns	Yes	Boolean	Specifies whether to set your own DNS server.
set_dns_action	Yes	String	Behavior of setting your own DNS server. <ul style="list-style-type: none"> • add: Add a customized DNS server IP address. • keep: Retain the DNS server IP address. • update: Update the customized DNS server IP address. (The update takes effect when the DNS server IP address changes.) • recover: Restore the default DNS server IP address. (Restoration may cause domain name resolution failures. Exercise caution when performing this operation.) Enumerated values: <ul style="list-style-type: none"> • add • keep • update • recover
dns_ip	Yes	String	DNS server IP address. Minimum length: 0 Maximum length: 15

Table 7-438 Data structure description of field **skip_precheck_info**

Parameter	Mandatory	Type	Description
skipped_precheck_list	Yes	Array of strings	Skipped pre-check item.
skip_reason	Yes	String	Reason for skipping the pre-check item.

Table 7-439 Data structure description of field **compare_task_param**

Parameter	Mandatory	Type	Description
compare_task_id	No	String	This parameter is mandatory for canceling a comparison task.
type	No	String	Comparison task mode. Values: <ul style="list-style-type: none"> • object: object-level comparison. • lines: row comparison. • contents: value comparison. Enumerated values: <ul style="list-style-type: none"> • object • lines • contents
start_time	No	String	Scheduled start time, in timestamp format.
option	No	Map<String,String>	Comparison policy.
db_object	No	Map<String,DatabaseObject>	Comparison object. For details, see Table 7-448 .
data_processing_info	No	Array of objects	Request body for updating a data processing rule. For details, see Table 7-440 .

Table 7-440 Data structure description of field **data_process_info**

Parameter	Mandatory	Type	Description
filter_conditions	No	Array of objects	Request body for data processing rules for a specified task. For details, see Table 7-441 .
is_batch_process	No	Boolean	The value is true for database-level and batch table-level data processing and false for single-table data processing.
add_columns	No	Array of objects	Additional column. This parameter is mandatory when adding additional columns is required. Note: You must use additional columns to avoid data conflicts in many-to-one operations. For details, see Table 7-442 .
ddl_operation	No	Map<String,String>	DDL operations to be migrated or synchronized in an incremental task. If this parameter is set to table , DDL operations including CREATE TABLE, ALTER TABLE, DROP TABLE, and RENAME TABLE can be migrated or synchronized. If this parameter is left blank, DDL operations cannot be migrated or synchronized.
dml_operation	No	String	DML operations to be migrated or synchronized. <ul style="list-style-type: none"> • i: INSERT • u: UPDATE • d: DELETE If this parameter is left blank, DML operations cannot be migrated or synchronized in an incremental task.

Parameter	Mandatory	Type	Description
db_object_column_info	No	Object	Column mapping and filtering information. This parameter is mandatory when column mapping and filtering information is required. For details, see Table 7-443 .
db_or_table_rename_rule	No	Object	Database table mapping rule. For details, see Table 7-445 .
db_object	No	Object	Data processing object information, which is mandatory when column mapping and data filtering conditions are verified. For details, see Table 7-446 .
is_synchronized	No	Boolean	Whether the rule has been synchronized to the destination database.
source	No	String	Comparison source. <ul style="list-style-type: none"> • job: indicates the data filtering during synchronization. • compare: indicates the data filtering during comparison. Enumerated values: <ul style="list-style-type: none"> • job • compare

Table 7-441 Data structure description of field **filter_conditions**

Parameter	Mandatory	Type	Description
value	No	String	Filtering condition. When filtering_type is set to configConditionalFilter , the default value is config . When filtering_type is set to contentConditionalFilter , the default value is the filtering condition.

Parameter	Mandatory	Type	Description
			<p>NOTE</p> <ul style="list-style-type: none"> • Each table has only one verification rule. • Up to 500 tables can be filtered at a time. • Standard SQL statements can be used to filter records. Each expression cannot contain packages, functions, variables, or constants specific to a database engine. • Enter the part following WHERE in the SQL statement (excluding WHERE and semicolons), for example, sid > 3 and sname like "G %". A maximum of 512 characters are allowed. • In SQL statements for setting filter criteria, keywords must be enclosed in backquotes, and the value of datetime (including date and time) must be enclosed in single quotation marks, for example, `update` > '2022-07-13 00:00:00' and age >10. • Filter criteria cannot be configured for large objects, such as CLOB, BLOB, and BYTEA. • Filtering rules cannot be set for objects whose database names and table names contain newline characters. • You are not advised to set filter criteria for fields of approximate numeric types, such as FLOAT, DECIMAL, and DOUBLE. • Do not use fields containing special characters as a filter condition. • You are not advised to use non-idempotent expressions or functions as data processing conditions, such as SYSTIMESTAMP and SYSDATE, because the returned result may be different each time the function is called.

Parameter	Mandatory	Type	Description
filtering_type	No	String	Filter condition type. <ul style="list-style-type: none"> • contentConditionalFilter: simple condition-based filtering. • configConditionalFilter: association table filtering. Enumerated values: <ul style="list-style-type: none"> • contentConditionalFilter • configConditionalFilter

Table 7-442 Data structure description of field **add_columns**

Parameter	Mandatory	Type	Description
column_type	No	String	Column type.
column_name	No	String	Column name.
column_value	No	String	Column value.
data_type	No	String	Data type of a column.

Table 7-443 Data structure description of field **db_object_column_info**

Parameter	Mandatory	Type	Description
db_name	No	String	Database name.
schema_name	No	String	Schema name.
table_name	No	String	Table name.
column_infos	No	Array of objects	Column information. For details, see Table 7-444 .
total_count	No	Integer	Total number of database column records, which is irrelevant to pagination and is used only as a return body parameter.

Table 7-444 Data structure description of field **column_infos**

Parameter	Mandatory	Type	Description
column_name	No	String	Column name.

Parameter	Mandatory	Type	Description
column_type	No	String	Column type.
primary_key_or_unique_index	No	String	Primary key or unique index.
column_mapped_name	No	String	Mapped column name.
is_filtered	No	Boolean	Whether the column is filtered.
is_partition_key	No	Boolean	Whether the column is a partition column.

Table 7-445 Data structure description of field **db_or_table_rename_rule**

Parameter	Mandatory	Type	Description
prefix_name	No	String	Prefix name. When type is set to prefixAndSuffix , this parameter is mandatory, and only a prefix is added to the database table name. If suffix_name is also specified, both a prefix and a suffix are added to the database table name.
suffix_name	No	String	Suffix name. When type is set to prefixAndSuffix , this parameter is mandatory, and only a suffix is added to the database table name. If prefix_name is also specified, both a prefix and a suffix are added to the database table name.
type	No	String	Database table mapping type. prefixAndSuffix : prefix, suffix, or prefix and suffix. Enumerated values: <ul style="list-style-type: none"> • prefixAndSuffix • manyToOne

Table 7-446 Data structure description of field **db_object**

Parameter	Mandatory	Type	Description
object_scope	Yes	String	Migration or synchronization object scope. The value can be: <ul style="list-style-type: none"> • all: Migrate or synchronize all objects. • database: database-level migration or synchronization. • table: table-level migration or synchronization. Enumerated values: <ul style="list-style-type: none"> • all • database • table
target_root_db	No	object	Destination database for database object migration or synchronization. This parameter is mandatory for database synchronization from Layer 2 to Layer 3. For details, see Table 7-447 .
object_info	No	Map<String, DatabaseObject>	Object information for migration or synchronization. If object_scope is set to all , leave this parameter blank. If object_scope is set to database or table , this parameter is mandatory. For details, see Table 7-448 .

Table 7-447 Data structure description of field **target_root_db**

Parameter	Mandatory	Type	Description
db_name	No	String	Database name.
db_encoding	No	String	Encoding format. The default value is UTF-8 .

Table 7-448 Data structure description of field **db_object**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the database in real-time synchronization. Values: config : This parameter is mandatory only when the database is used as an association database in advanced settings for data filtering. In this case, the database and its schemas and tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in schemas and tables . NOTE To synchronize the database-level object, set sync_type to config for the lower-level object. Enumerated values: <ul style="list-style-type: none"> • config
name	No	String	Name of the database in the destination database (database name mapping).

Parameter	Mandatory	Type	Description
all	No	Boolean	<p>Whether to migrate or synchronize the entire database.</p> <p>NOTE</p> <ul style="list-style-type: none"> • If data filtering, column filtering, and column mapping are required for schemas, tables, and columns in the database, set this parameter to false. Otherwise, set this parameter to true. • If additional columns are required for tables in the database, set this parameter to true and enter additional column information in columns of table-level objects. • If the table columns in the database are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
schemas	No	Map<String, SchemaObject >	<p>Schema to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-449.</p>
tables	No	Map<String, TableObject >	<p>Table to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-450.</p>
total_table_number	No	Integer	<p>Number of tables in the database. If the number of tables exceeds the threshold, this parameter is not displayed.</p>
is_synchronized	No	Boolean	<p>Whether synchronization has been performed.</p>

Table 7-449 Data structure description of field **schemas**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the schema in real-time synchronization. Values: config : This parameter is mandatory only when the schema is used as an association schema in advanced settings for data filtering. In this case, the schema and its tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in tables . NOTE To synchronize the schema-level object, set sync_type to config for the lower-level object.
name	No	String	Name of the schema in the destination database (schema name mapping).
all	No	Boolean	Whether to migrate or synchronize the entire schema. NOTE <ul style="list-style-type: none"> If data filtering, column filtering, and column mapping are required for tables and columns in the schema, set this parameter to false. Otherwise, set this parameter to true. If additional columns are required for tables in the schema, set this parameter to true and enter additional column information in columns of table-level objects. If the table columns in the schema are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.

Parameter	Mandatory	Type	Description
tables	No	Map<String, TableObject >	Table to be migrated or synchronized. This parameter is mandatory when all is set to false . For details, see Table 7-450 .

Table 7-450 Data structure description of field **tables**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the table in real-time synchronization. Values: config : This parameter is mandatory only when the table is used as an association table in advanced settings for data filtering. In this case, the table and its columns will not be synchronized to the destination database. The name , all , filtered , and filter_conditions parameters do not take effect. Enter the associated objects in columns and the configuration criteria in advanced settings for data filtering in config_conditions . NOTE To synchronize the table-level object, set sync_type to config for the lower-level object.
type	No	String	Object type. Values: <ul style="list-style-type: none"> ● table: indicates a table. ● view: indicates a view. ● procedure: indicates a stored procedure. Enumerated values: <ul style="list-style-type: none"> ● table ● view ● procedure
name	No	String	Name of the table in the destination database (table name mapping).

Parameter	Mandatory	Type	Description
all	No	Boolean	<p>Whether to migrate or synchronize the entire table.</p> <p>NOTE</p> <ul style="list-style-type: none"> • If column filtering and column mapping are not required for the table, set this parameter to true. Otherwise, set this parameter to false. • If additional columns are required for the table, set this parameter to true and enter additional column information in columns. • If the table columns are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
db_alias_name	No	String	Mapping of database names at the table level in the one-to-many scenario.
schema_alias_name	No	String	Mapping of schema names at the table level in the one-to-many scenario.
filtered	No	Boolean	Whether to filter data in the table.
filter_conditions	No	Array of strings	<p>Filtering criteria for the table data. The processing rule value is a SQL statement. The value contains a maximum of 512 characters.</p> <p>Minimum length: 0 Maximum length: 512</p>

Parameter	Mandatory	Type	Description
config_conditions	No	Array of strings	Configuration criteria in advanced settings for data filtering of the table. This parameter is mandatory when the table is used as an association table for query. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512
is_synchronized	No	Boolean	Whether synchronization has been performed.
columns	No	Map<String,ColumnObject>	Columns to be synchronized, mapped, filtered, or added. This parameter is mandatory when column filtering, column mapping, and additional columns are required. This parameter takes effect only in real-time synchronization tasks. This parameter is mandatory when all is set to false . For details, see Table 7-451 .

Table 7-451 Data structure description of field columns

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the column in real-time synchronization. Values: config : This parameter is mandatory only when the column is used as an association column in advanced settings for data filtering. If the column is a primary key column or index column required for optimizing the query, primary_key_for_data_filtering or index_for_data_filtering is mandatory. NOTE Whether to synchronize the column to the destination database depends on the filtered parameter, which is different from the database, schema, and table-level synchronization.
primary_key_for_data_filtering	No	String	Whether the column is a primary key column in advanced settings for data filtering. If the column is a primary key column, set this parameter to the column name. Otherwise, leave this parameter blank.
index_for_data_filtering	No	String	Whether the column is an index column required for optimizing the query. The index is added to the cached data. It does not affect the source table. If the column is an index column in advanced settings for data filtering, this parameter is mandatory. Otherwise, leave this parameter blank.

Parameter	Mandatory	Type	Description
name	No	String	Name of the column in the destination database (column name mapping). If the column is an additional column, the value must be the same as the column name in the table-level object.
type	No	String	Data type of the column. Column filtering: Enter the data type of the source column. Additional column adding: Enter the data type of the new column. The values and constraints vary depending on the operation type. Values: <ul style="list-style-type: none"> • Default: The value can be int, long, varchar(256), datetime, or timestamp. • create_time: The value can be long, datetime, or timestamp. • update_time: The value can be long, datetime, or timestamp. • Expression: The value can be varchar (256), and the column value must be concat(_current_database, '@', _current_table). • serverName@database@table: The value can be varchar(256).
primary_key_for_column_filtering	No	String	Whether the column is a primary key column in column mapping. If the column is a primary key column, set this parameter to PRI . Otherwise, leave this parameter blank.

Parameter	Mandatory	Type	Description
filtered	No	Boolean	Whether the column is filtered out. This parameter cannot be used together with the additional parameter. Values: <ul style="list-style-type: none"> • true: indicates that the column will be synchronized. • false: indicates that the column is filtered out and will not be synchronized.
additional	No	Boolean	Whether the column is an additional column. If the column is an additional column, the value of name must be the same as the column name in the table-level object and cannot be used together with the filtered parameter.
operation_type	No	String	Operation type. The new column is filled with a specific operation type. Values: <ul style="list-style-type: none"> • Default: "operation_type":"ADDITIONALCOLUMN,default_value" • create_time: "operation_type":"ADDITIONALCOLUMN,create_time" • update_time: "operation_type":"ADDITIONALCOLUMN,update_time" • Expression: "operation_type":"ADDITIONALCOLUMN,expression" • serverName@database@table: "operation_type":"ADDITIONALCOLUMN,server_database_table"

Parameter	Mandatory	Type	Description
value	No	String	Value of the additional column. Note: <ul style="list-style-type: none"> This parameter is mandatory only when operation type is set to Default or serverName@database@table. When operation type is set to Expression, this parameter has a fixed value of concat(_current_database, '@', _current_table).

Table 7-452 Data structure description of field **public_ip_config**

Parameter	Mandatory	Type	Description
id	Yes	String	ID of a specified EIP.
public_ip	Yes	String	EIP.
type	Yes	String	Type of a task with an EIP bound. <ul style="list-style-type: none"> In a primary/standby task, master indicates the primary task, and slave indicates the standby task. In other cases, the value is fixed to master. Enumerated values: <ul style="list-style-type: none"> master slave

Table 7-453 Data structure description of field **replay_config**

Parameter	Mandatory	Type	Description
db_instance_id	Yes	String	Source instance ID.

Parameter	Mandatory	Type	Description
cloud_type	Yes	String	Cloud type. <ul style="list-style-type: none"> • AWSCloud: AWS Cloud. • TencentCloud: Tencent Cloud. • AliCloud: Alibaba Cloud. Enumerated values: <ul style="list-style-type: none"> • AWSCloud • TencentCloud • AliCloud
ak	Yes	String	AK information of other clouds.
sk	Yes	String	SK information of other clouds.
db_source	Yes	String	Source of the source database. The value can be: <ul style="list-style-type: none"> • aws_aurora_mysql: Amazon Aurora MySQL. • tencent_tdsq_l_c: Tencent Cloud TDSQL-C MySQL. • ali_rds_mysql: Alibaba Cloud ApsaraDB RDS for MySQL. Enumerated values: <ul style="list-style-type: none"> • aws_aurora_mysql • tencent_tdsq_l_c • ali_rds_mysql
region	Yes	String	Region name of other clouds.
traffic_source	Yes	String	Workload file source. <ul style="list-style-type: none"> • sdk: Download audit logs through third-party cloud APIs.

Response Parameters

Status code: 200

Table 7-454 Response body parameters

Parameter	Type	Description
jobs	Array of objects	Response body for performing operations on tasks in batches. For details, see Table 7-455 .

Table 7-455 Data structure description of field **jobs**

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512
id	String	Task ID.
name	String	Task name.
status	String	Operation result.

Status code: 202

Table 7-456 Response body parameters

Parameter	Type	Description
jobs	Array of objects	Response body for asynchronously performing operations on tasks in batches. For details, see Table 7-457 .

Table 7-457 Data structure description of field **jobs**

Parameter	Type	Description
query_id	String	Query ID of the asynchronous operation task.
id	String	Task ID.
name	String	Task name.

Status code: 400

Table 7-458 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Batch performing operations on tasks with specified IDs

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/action  
  
{  
  "jobs" : [ {  
    "job_id" : "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r",  
    "action_name" : "start"  
  }, {  
    "job_id" : "dc6016cf-f3b6-4c2d-b4d7-5084b0fjb20r",  
    "action_name" : "stop"  
  } ]  
}
```

Example Response

Status code: 200

OK

```
{  
  "jobs" : [ {  
    "id" : "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r",  
    "name" : "DRS-1234",  
    "status" : "Success"  
  }, {  
    "id" : "dc6016cf-f3b6-4c2d-b4d7-5084b0fjb20r",  
    "name" : "DRS-2345",  
    "status" : "Failed",  
    "error_code" : "DRS.10000010",  
    "error_msg" : "Job does not exist, please check job ID"  
  } ]  
}
```

Status code: 202

Accepted

```
{  
  "jobs" : [ {  
    "id" : "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r",  
    "name" : "DRS-1234",  
    "query_id" : "7debc9c-8e09-4a5d-8dd6-cc44f45566"  
  }, {  
    "id" : "dc6016cf-f3b6-4c2d-b4d7-5084b0fjb20r",  
    "name" : "DRS-2345",  
    "query_id" : "7debc9c-8e09-4a5d-8dd6-cc44f45566"  
  } ]  
}
```

```
  }]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "DRS.1000001",  
  "error_msg" : "Failed."  
}
```

Status Code

Status Code	Description
200	OK
202	Accepted
400	Bad Request

Error Code

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

7.6.5 Batch Stopping Tasks

Function

This API is used to batch stop tasks with a specified ID.

URI

POST /v5/{project_id}/jobs/batch-stop

Table 7-459 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Request Parameters

Table 7-460 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-461 Request body parameters

Parameter	Mandatory	Type	Description
jobs	Yes	Array of objects	Request body for stopping tasks in batches. For details, see Table 7-462 .

Table 7-462 Data structure description of field **jobs**

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.

Parameter	Mandatory	Type	Description
is_force_stop	No	Boolean	Set this parameter to true when a task is forcibly stopped. The default value is false . Default value: false

Response Parameters

Status code: 200

Table 7-463 Response body parameters

Parameter	Type	Description
jobs	Array of objects	Response body for performing operations on tasks in batches. For details, see Table 7-464 .

Table 7-464 Data structure description of field **jobs**

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512
id	String	Task ID.
name	String	Task name.
status	String	Operation result.

Status code: 400

Table 7-465 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Batch stopping tasks with a specified ID

https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-stop

```
{
  "jobs": [
    {
      "job_id": "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r"
    },
    {
      "job_id": "dc6016cf-f3b6-4c2d-b4d7-5084b0fjb20s",
      "is_force_stop": false
    },
    {
      "job_id": "dc6016cf-f3b6-4c2d-b4d7-5084b0fjb20t",
      "is_force_stop": true
    }
  ]
}
```

Example Response

Status code: 200

OK

```
{
  "jobs" : [ {
    "id" : "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r",
    "name" : "DRS-1234",
    "status" : "Success"
  }, {
    "id" : "dc6016cf-f3b6-4c2d-b4d7-5084b0fjb20r",
    "name" : "DRS-2345",
    "status" : "Failed",
    "error_code" : "DRS.10020102",
    "error_msg" : "Job does not exist, please check job ID"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10000001",
```

```
"error_msg" : "Failed."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.6.6 Obtaining the Operations Allowed in a Specified Task

Function

This API is used to obtain information about allowed, not allowed, and current operations of a specified task.

Constraints

This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs/{job_id}/actions

Table 7-466 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-467 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-468 Response body parameters

Parameter	Type	Description
job_action	Object	Collection of allowed and not allowed operations. For details, see Table 7-469 .

Table 7-469 Data structure description of field **job_action**

Parameter	Type	Description
available_actions	Array of strings	<p>The collection of operation commands that can be executed for a task.</p> <p>The value can be:</p> <ul style="list-style-type: none"> ● CREATE: indicates the operation command for creating a task. ● CHOOSE_OBJECT: indicates the operation command for selecting objects during the incremental task editing. ● PRE_CHECK: indicates the operation command for pre-check. ● CHANGE_MODE: indicates the operation command for changing the task mode. ● FREE_RESOURCE: indicates the operation command for releasing resources. ● MODIFY_DB_CONFIG: indicates the operation command for modifying database configurations. ● RESET_DB_PWD: indicates the operation command for resetting the password of the source or destination database. ● MODIFY_CONFIGURATION: indicates the operation command for modifying task configurations. ● PAUSE: indicates the operation command for pausing a task. ● START: indicates the operation command for starting a task. ● CHANGE: indicates the operation command for modifying a task. ● RETRY: indicates the operation command for retrying a task. ● RESET: indicates the operation command for resetting a task. ● DELETE: indicates the operation command for deleting a task. ● QUERY_PRE_CHECK: indicates the operation command for performing a pre-check. ● SWITCH_OVER: indicates the operation command for performing a DR switchover. ● START_INCR: indicates the operation command for starting an incremental Cassandra task.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● MODIFY_TASK_NUMBER: indicates the operation command for modifying the number of Cassandra threads. ● CONTINUE_JOB: indicates the operation command for resuming a failed or stopped task from Oracle to GaussDB distributed. ● STOP_JOB: indicates the operation command for stopping a task from Oracle to GaussDB distributed. ● CONTINUE_CAPTURE: indicates the operation command for starting data capture. ● STOP_CAPTURE: indicates the operation command for stopping data capture. ● CONTINUE_APPLY: indicates the operation command for starting data replay. ● STOP_APPLY: indicates the operation command for stopping data replay. ● PAY_ORDER: indicates the operation command for paying a yearly/monthly order. ● UNSUBSCRIBE: indicates the operation command for unsubscribing from a yearly/monthly subscription. ● TO_PERIOD: indicates the operation command for changing the billing mode from pay-per-use to yearly/monthly. ● TO_RENEW: indicates the operation command for renewing a yearly/monthly subscription. ● ORDER_INFO: indicates the operation command for querying order details. ● CHANGE_FLAVOR: indicates the operation command for changing task specifications. ● CLONE: indicates the operation command for cloning a task.

Parameter	Type	Description
unavailable_actions	Array of strings	<p>The collection of operation commands that cannot be executed for a task.</p> <p>The value can be:</p> <ul style="list-style-type: none"> ● CREATE: indicates the operation command for creating a task. ● CHOOSE_OBJECT: indicates the operation command for selecting objects during the incremental task editing. ● PRE_CHECK: indicates the operation command for pre-check. ● CHANGE_MODE: indicates the operation command for changing the task mode. ● FREE_RESOURCE: indicates the operation command for releasing resources. ● MODIFY_DB_CONFIG: indicates the operation command for modifying database configurations. ● RESET_DB_PWD: indicates the operation command for resetting the password of the source or destination database. ● MODIFY_CONFIGURATION: indicates the operation command for modifying task configurations. ● PAUSE: indicates the operation command for pausing a task. ● START: indicates the operation command for starting a task. ● CHANGE: indicates the operation command for modifying a task. ● RETRY: indicates the operation command for retrying a task. ● RESET: indicates the operation command for resetting a task. ● DELETE: indicates the operation command for deleting a task. ● QUERY_PRE_CHECK: indicates the operation command for performing a pre-check. ● SWITCH_OVER: indicates the operation command for performing a DR switchover. ● START_INCR: indicates the operation command for starting an incremental Cassandra task. ● MODIFY_TASK_NUMBER: indicates the operation command for modifying the number of Cassandra threads.

Parameter	Type	Description
		<ul style="list-style-type: none"> ● CONTINUE_JOB: indicates the operation command for resuming a failed or stopped task from Oracle to GaussDB distributed. ● STOP_JOB: indicates the operation command for stopping a task from Oracle to GaussDB distributed. ● CONTINUE_CAPTURE: indicates the operation command for starting data capture. ● STOP_CAPTURE: indicates the operation command for stopping data capture. ● CONTINUE_APPLY: indicates the operation command for starting data replay. ● STOP_APPLY: indicates the operation command for stopping data replay. ● PAY_ORDER: indicates the operation command for paying a yearly/monthly order. ● UNSUBSCRIBE: indicates the operation command for unsubscribing from a yearly/monthly subscription. ● TO_PERIOD: indicates the operation command for changing the billing mode from pay-per-use to yearly/monthly. ● TO_RENEW: indicates the operation command for renewing a yearly/monthly subscription. ● ORDER_INFO: indicates the operation command for querying order details. ● CHANGE_FLAVOR: indicates the operation command for changing task specifications. ● CLONE: indicates the operation command for cloning a task.
current_action	String	The current operation.

Status code: 422

Table 7-470 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Obtaining the operation information about a specified task

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/163b98e8-6088-46c3-8b86-c18fea6jb502/actions
```

Example Response

Status code: 200

OK

```
{
  "job_action": {
    "available_actions": [
      "CREATE",
      "CHOOSE_OBJECT",
      "PRE_CHECK"
    ],
    "unavailable_actions": [
      "START",
      "QUICK_START",
      "CHANGE",
      "RETRY"
    ],
    "current_action": "SWITCH_OVER"
  }
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.10000001",
  "error_msg": "Failed."
}
```

Error Code

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

7.6.7 Obtaining the Result for Querying Database Position

Function

This API is used to obtain the result for querying the database position.

Constraints

- This API is available only for data synchronization from MySQL to GaussDB(DWS).
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs/{job_id}/db-position

Table 7-471 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-472 Query parameters

Parameter	Mandatory	Type	Description
query_id	Yes	String	ID of the result for collecting database position information, which is returned by the API for collecting database position information.

Request Parameters

Table 7-473 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-474 Response body parameters

Parameter	Type	Description
job_id	String	Task ID.
status	String	Query status. Enumerated values: <ul style="list-style-type: none"> • pending • failed • success
position	String	Position information.

Status code: 400

Table 7-475 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Obtaining the result for querying database position

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/db-position?query_id=0eacda0b-9422-4535-8b62-537d1833638b
```

Example Response

Status code: 200

OK

```
{
  "job_id" : "c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r",
  "position" : "mysql-bin.000277:805",
  "status" : "pending"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10030014",
  "error_msg" : "Firstly, please the query object info."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.6.8 Verifying a Task Name

Function

This API is used to verify a task name during task creation.

Constraints

This API can be used only in certain regions. For details, see [Endpoints](#).

URI

POST /v5/{project_id}/jobs/name-validation

Table 7-476 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Request Parameters

Table 7-477 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-478 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Task name, which must start with a letter and consist of 4 to 50 characters. It can contain only letters, digits, hyphens (-), and underscores (_).
type	Yes	String	Task type. <ul style="list-style-type: none"> • trans: used for real-time migration, synchronization, and disaster recovery. • subscription: used for data subscription. • offline: used for backup migration.

Response Parameters

Status code: 200

Table 7-479 Response body parameters

Parameter	Type	Description
is_valid	Boolean	Whether the task name is valid.

Status code: 422**Table 7-480** Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Verifying a task name

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/name-validation
{
  "name": "DRS-211",
  "type": "trans"
}
```

Example Response

Status code: 200

OK

```
{
  "is_valid": true
}
```

Status code: 422

Bad Request

```
{
  "error_code": "DRS.M00277",
  "error_msg": "The task name already exists."
}
```

Error Code

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

7.6.9 Updating the Start Point of an Incremental Task

Function

This API is used to update the start point of an incremental task.

Constraints

- This API is available only for incremental synchronization scenarios from MySQL to MySQL, from MySQL to GaussDB(DWS), from MySQL to GaussDB(for MySQL), from MySQL to Oracle, from MySQL to Kafka, from GaussDB(for MySQL) to GaussDB(for MySQL), from GaussDB(for MySQL) to MySQL, from GaussDB(for MySQL) to Oracle, from GaussDB(for MySQL) to Kafka, from MongoDB to Kafka, and from MongoDB to DDS.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

PUT /v5/{project_id}/jobs/{job_id}/start-position

Table 7-481 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-482 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Table 7-483 Request body parameters

Parameter	Mandatory	Type	Description
file_and_position	Yes	String	<ul style="list-style-type: none"> When MySQL serves as the source database, run show master status to obtain the start point of the source database and set File and Position as prompted. For example, mysql-bin.000277:805, in which the file name can contain only 1 to 60 characters and cannot contain the following special character <code><>&:'"/\</code>, the file number can contain only 3 to 20 digits, the binlog event position can contain only 1 to 20 digits, and the total length cannot exceed 100 characters. The value is in the format of File_name.file_number:Event_position. When MongoDB serves as the source database, the source database logs are obtained from within the time range of the oplog, starting with the current start position. To check whether the start position is within the oplog time range, run db.getReplicationInfo() for a non-cluster instance, and for a cluster instance, run db.watch([], {startAtOperationTime: Timestamp(xx, xx)}), where xx is the start position you specified. The value is in the format of timestamp:incr. The values of timestamp and incr are integers ranging from 1 to 2,147,483,647.

Parameter	Mandatory	Type	Description
gtid_set	No	String	<ul style="list-style-type: none"> This parameter is mandatory for tasks whose source database is MySQL. Run show master status to obtain the start point of the source database and set Executed_Gtid_Set as prompted. (If the source database is MySQL 5.5, synchronization tasks are not supported.) Enter a maximum of 2048 characters. Chinese characters and the following special characters are not allowed: < > & " ' / \\

Response Parameters

None

Example Request

- Updating start point for a synchronization task from MySQL to MySQL
<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/start-position>

```
{
  "file_and_position" : "mysql-bin.000277:805",
  "gtid_set" : "123"
}
```
- Updating start point for a synchronization task from MongoDB to Kafka
<https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/start-position>

```
{
  "file_and_position" : "123:12345"
}
```

Example Response

Status code: 200

OK

```
{}
```

Status Code

Status Code	Description
200	OK

Error Code

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

7.6.10 Uploading a Driver File

Function

This API is used to upload a driver file.

Constraints

- This API is available only in the synchronization scenario where DB2 for LUW serves as the source database.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

POST /v5/{project_id}/jdbc-driver

Table 7-484 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Request Parameters

Table 7-485 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value multipart/form-data . For APIs used to upload objects or images, the value varies depending on the flow type.

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-486 FormData parameter

Parameter	Mandatory	Type	Description
file	Yes	File	Driver file. The driver file name contains 5 to 64 characters and ends with .jar . If a driver file with the same name exists, the file is replaced by the uploaded one.

Response Parameters

None

Example Request

Uploading a driver file

`https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jdbc-driver`

Example Response

Status code: 200

OK

{ }

Status Code

Status Code	Description
200	OK

Error Code

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

7.6.11 Deleting a Driver File

Function

This API is used to delete a driver file.

Constraints

- This API is available only in the synchronization scenario where DB2 for LUW serves as the source database.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

DELETE /v5/{project_id}/jdbc-drivers

Table 7-487 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Request Parameters

Table 7-488 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-489 Request body parameters

Parameter	Mandatory	Type	Description
driver_names	Yes	Array of strings	JDBC driver file list. The list contains 1 to 20 files. The driver file name contains 5 to 64 characters and ends with .jar .

Response Parameters

None

Example Request

Deleting a driver file


```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jdbc-drivers  
{  
  "driver_names": [ "****.jar" ]  
}
```

Example Response

Status code: 200

OK

```
{ }
```

Status Code

Status Code	Description
200	OK

Error Code

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

7.6.12 Synchronizing a Driver File

Function

This API is used to synchronize a driver file.

Constraints

- This API is available only in the synchronization scenario where DB2 for LUW serves as the source database.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

PUT /v5/{project_id}/jobs/{job_id}/update-jdbc-driver

Table 7-490 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-491 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-492 Request body parameters

Parameter	Mandatory	Type	Description
driver_name	Yes	String	Name of the JDBC driver file. The value contains 5 to 64 characters and ends with .jar .

Response Parameters

None

Example Request

Synchronizing a driver file

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/d27f6a81-7d6b-4d56-a184-7d30576jb201/update-jdbc-driver
```

```
{  
  "driver_name" : "jcc-11.5.6.0.jar"  
}
```

Example Response

Status code: 200

OK

```
{}
```

Status Code

Status Code	Description
200	OK

Error Code

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

7.6.13 Querying the Driver File List

Function

This API is used to query the driver file list.

Constraints

- This API is available only in the synchronization scenario where DB2 for LUW serves as the source database.
- This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jdbc-drivers

Table 7-493 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Table 7-494 Query parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed per page. The default value is 10 . The value ranges from 1 to 1000. Minimum value: 1 Maximum value: 1000 Default value: 10
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0. The default value is 0 . Default value: 0

Request Parameters

Table 7-495 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-496 Response body parameters

Parameter	Type	Description
count	Integer	Total number of driver files.
items	Array of DriverInfo objects	Driver file list.

Table 7-497 DriverInfo

Parameter	Type	Description
driver_name	String	File name.
last_modified	String	Last modification time.
size	Integer	File size, in bytes.

Example Request

Obtaining the driver file list

`https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jdbc-drivers?limit=10&offset=0`

Example Response

Status code: 200

OK

```
{
  "count" : 10,
  "items" : [ {
    "driver_name" : "db2jcc_****.jar",
    "size" : 102400000,
    "last_modified" : "2020-09-01T18:50:20Z"
  }
]
```

```
}]  
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

7.7 Comparison Management

7.7.1 Querying the Comparison Policy

Function

This API is used to query the comparison policy.

Constraints

This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs/{job_id}/compare-policy

Table 7-498 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-499 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-500 Response body parameters

Parameter	Type	Description
interval_hour	Integer	Time interval.
period	String	Comparison period.
begin_time	String	Comparison start time.
end_time	String	Comparison end time.

Parameter	Type	Description
compare_type	Array of strings	Comparison type. <ul style="list-style-type: none"> ● object: object-level comparison. ● lines: row comparison. ● account: Account-level comparison.
status	String	Status of the comparison policy. <ul style="list-style-type: none"> ● OPEN: Enabled. ● CLOSED: Disabled, indicating that no comparison policy is set. ● NO_SUPPORT: No data is available. Enumerated values: <ul style="list-style-type: none"> ● OPEN ● CLOSED ● NO_SUPPORT
next_compare_time	String	Next comparison time (UTC), for example, 2023-06-12T08:00:00Z.
compare_policy	String	Comparison policy. <ul style="list-style-type: none"> ● normal: One-to-one comparison. ● manyToOne: Many-to-one comparison.

Status code: 400

Table 7-501 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying the comparison policy

<https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/163b98e8-6088-46c3-8b86-c18fea6jb502/compare-policy>

Example Response

Status code: 200

OK

```
{
  "period": "** * 1,2,3,4,5,6,7",
  "status": "OPEN",
  "begin_time": "08:00:00",
  "end_time": "10:00:00",
  "compare_type": [
    "lines",
    "account",
    "object_comparison"
  ],
  "next_compare_time": "2023-06-12T08:00:00Z",
  "compare_policy": "normal"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.M05003",
  "error_msg": "Task information not found."
}
```

Error Code

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

7.7.2 Modifying the Comparison Policy

Function

This API is used to modify the periodic comparison policy. This function is available only for MySQL-to-MySQL, MySQL-to-GaussDB(for MySQL), MySQL-to-GaussDB(DWS) and GaussDB(for MySQL)-to-MySQL synchronization tasks, MySQL-to-MySQL and MySQL-to-GaussDB(for MySQL) migration tasks, and MySQL-to-MySQL, MySQL-to-GaussDB(for MySQL), GaussDB(for MySQL)-to-GaussDB(for MySQL), and DDM-to-DDM disaster recovery tasks.

URI

PUT /v5/{project_id}/jobs/{job_id}/compare-policy

Table 7-502 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-503 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-504 Request body parameters

Parameter	Mandatory	Type	Description
action	Yes	String	Indicates whether to enable the comparison policy. <ul style="list-style-type: none"> • open • close

Parameter	Mandatory	Type	Description
period	No	String	<p>Comparison policy period.</p> <ul style="list-style-type: none"> • Weekly comparison: The format is * * 1,3,5, where 1, 3, 5 indicates Monday, Wednesday, and Friday, respectively. Set this parameter based on the site requirements. • Daily comparison: The value is fixed at * * 1,2,3,4,5,6,7. • Hourly comparison: The value is fixed at * * 1,2,3,4,5,6,7.
begin_time	No	String	<p>Start time of the comparison policy. The value is UTC time in the 24-hour format of HH:mm:ss. For example, 00:00:00 indicates 00:00:00 UTC time and 08:00:00 Beijing time (UTC+08:00).</p>
end_time	No	String	<p>End time of the comparison policy. The value is UTC time in the 24-hour format of HH:mm:ss. For example, 04:00:00 indicates 04:00:00 UTC time and 12:00:00 Beijing time (UTC+08:00).</p>
compare_type	No	Array of strings	<p>Comparison type.</p> <ul style="list-style-type: none"> • object_comparison: object-level comparison. • lines: row comparison. • account: Account-level comparison.
compare_policy	No	String	<p>Comparison policy.</p> <ul style="list-style-type: none"> • normal: One-to-one comparison. • manyToOne: Many-to-one comparison.
interval_hour	No	Integer	<p>Interval at which the comparison is performed. This parameter is required when the comparison is performed by hour. The unit is hour.</p>

Response Parameters

Status code: 400

Table 7-505 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

- Enabling periodic comparison and setting the policy to daily comparison, the effective time to 00:00:00 to 04:00:00 UTC and 08:00:00 to 12:00:00 Beijing time (UTC+08:00), and the comparison type to row comparison
<https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/163b98e8-6088-46c3-8b86-c18fea6jb502/compare-policy>

```
{
  "action": "open",
  "begin_time": "00:00:00",
  "compare_policy": "normal",
  "compare_type": [ "lines" ],
  "end_time": "04:00:00",
  "period": "* * 1,2,3,4,5,6,7"
}
```

- Enabling periodic comparison and setting the policy to Monday, Wednesday, and Friday every week, the effective time to 00:00:00 to 09:00:00 UTC and 08:00:00 to 17:00:00 Beijing time (UTC+08:00), and the comparison type to row comparison and object comparison
<https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/163b98e8-6088-46c3-8b86-c18fea6jb502/compare-policy>

```
{
  "action": "open",
  "begin_time": "00:00:00",
  "compare_type": [ "lines", "object_comparison" ],
  "end_time": "09:00:00",
  "period": "* * 1,3,5"
}
```

- Disabling periodic comparison
<https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/163b98e8-6088-46c3-8b86-c18fea6jb502/compare-policy>

```
{
  "action": "close"
}
```

- Enabling periodic comparison and setting the policy to hourly comparison, the effective time to 00:00:00 to 04:00:00 UTC and 08:00:00 to 12:00:00 Beijing time (UTC+08:00), the comparison interval to 1 hour, and the comparison type to row comparison and object comparison

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/163b98e8-6088-46c3-8b86-c18fea6jb502/compare-policy
```

```
{
  "action": "open",
  "begin_time": "00:00:00",
  "compare_policy": "normal",
  "compare_type": [ "lines", "object_comparison" ],
  "end_time": "04:00:00",
  "period": "** * 1,2,3,4,5,6,7",
  "interval_hour": 1
}
```

Example Response

Status code: 200

OK

```
{}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.10000001",
  "error_msg": "Failed."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.7.3 Querying the Health Comparison List

Function

This API is used to query the health comparison list.

Constraints

This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs/{job_id}/health-compare-jobs

Table 7-506 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-507 Query parameters

Parameter	Mandatory	Type	Description
status	No	String	<p>Status. If this parameter is not specified, all statuses are queried.</p> <ul style="list-style-type: none"> ● WAITING_FOR_RUNNING: The comparison task is waiting to be started. ● RUNNING: The comparison task is in progress. ● SUCCESSFUL: The comparison task is complete. ● FAILED: The comparison task failed. ● CANCELLED: The comparison task is canceled. ● TIMEOUT_INTERRUPT: The comparison task times out. ● FULL_DOING: Full verification is in progress. ● INCRE_DOING: Incremental verification is in progress. <p>Enumerated values:</p> <ul style="list-style-type: none"> ● WAITING_FOR_RUNNING ● RUNNING ● SUCCESSFUL ● FAILED ● CANCELLED ● TIMEOUT_INTERRUPT ● FULL_DOING ● INCRE_DOING
limit	No	String	<p>Number of items displayed per page. The default value is 10. The value ranges from 1 to 1000.</p> <p>Minimum value: 1 Maximum value: 1000 Default value: 10</p>

Parameter	Mandatory	Type	Description
offset	No	String	Offset, which is the position where the query starts. The value must be greater than or equal to 0. The default value is 0 . Default value: 0

Request Parameters

Table 7-508 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-509 Response body parameters

Parameter	Type	Description
count	Integer	Total number.
compare_jobs	Array of objects	List of health comparison tasks. For details, see Table 7-510 .

Table 7-510 compare_jobs parameters

Parameter	Type	Description
id	String	Task ID.
type	String	Comparison type.
start_time	String	Comparison start time.
end_time	String	Comparison end time.
status	String	Status. <ul style="list-style-type: none">● WAITING_FOR_RUNNING: The comparison task is waiting to be started.● RUNNING: The comparison task is in progress.● SUCCESSFUL: The comparison task is complete.● FAILED: The comparison task failed.● CANCELLED: The comparison task is canceled.● TIMEOUT_INTERRUPT: The comparison task times out.● FULL_DOING: Full verification is in progress.● INCRE_DOING: Incremental verification is in progress.
compute_type	String	Compute resource of a comparison task.

Status code: 400**Table 7-511** Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12

Parameter	Type	Description
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying the health comparison list

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/163b98e8-6088-46c3-8b86-c18fea6jb502/health-compare-jobs?offset=1&limit=10
```

Example Response

Status code: 200

OK

```
{
  "count": 1,
  "compare_jobs": [
    {
      "id": "cd05434c-ad91-479c-a8d3-d90d58eccc43",
      "type": "lines,account,object_comparison",
      "status": "SUCCESSFUL",
      "start_time": "1686038400512",
      "end_time": "1686038408711",
      "compute_type": "drs"
    }
  ]
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.M05003",
  "error_msg": "Task information not found."
}
```

Error Code

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

7.7.4 Querying Details About a Health Comparison Task

Function

This API is used to query details about a health comparison task.

URI

```
GET /v5/{project_id}/jobs/{job_id}/health-compare-jobs/{compare_job_id}
```

Table 7-512 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.
compare_job_id	Yes	String	ID of a comparison task.

Request Parameters

Table 7-513 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Response Parameters

Status code: 200

Table 7-514 Response body parameters

Parameter	Type	Description
id	String	ID of a comparison task.
type	String	Comparison type. object_comparison : object-level comparison. lines : row comparison. account : Account-level comparison.
start_time	String	Start time (UTC), for example, 2024-04-03T08:00:01Z .
end_time	String	End time (UTC), for example, 2024-04-03T08:00:01Z .
status	String	Status of a comparison task. The value can be: <ul style="list-style-type: none"> • RUNNING: The comparison task is in progress. • WAITING_FOR_RUNNING: The comparison task is waiting to be started. • SUCCESSFUL: The comparison task is complete. • FAILED: The comparison task fails. • CANCELLED: The comparison task is canceled. • TIMEOUT_INTERRUPT: The comparison task times out. • FULL_DOING: Full verification is in progress. • INCRE_DOING: Incremental verification is in progress.
job_name	String	Task name.

Status code: 400

Table 7-515 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying details about a health comparison task

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/163b98e8-6088-46c3-8b86-c18fea6jb502/health-compare-jobs/118d1bdc-b3c8-48a0-af77-3400da6e9291
```

Example Response

Status code: 200

OK

```
{
  "id": "3bca29b5-419a-409d-a8d1-d892aa12bf53",
  "type": "lines.object_comparison",
  "status": "SUCCESSFUL",
  "start_time": "2024-04-07T10:00:01Z",
  "end_time": "2024-04-07T10:00:09Z",
  "job_name": "DRS-7754"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.10000001",
  "error_msg": "Failed."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.7.5 Obtaining the Overview of an Object-Level Health Comparison

Function

This API is used to obtain the overview of an object-level health comparison.

URI

```
GET /v5/{project_id}/jobs/{job_id}/health-compare-jobs/object/{compare_job_id}
```

Table 7-516 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.
compare_job_id	Yes	String	ID of a comparison task.

Request Parameters

Table 7-517 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Response Parameters

Status code: 200

Table 7-518 Response body parameters

Parameter	Type	Description
compare_result	Array of objects	Result of an object-level health comparison. For details, see Table 7-519 .

Table 7-519 compare_result parameters

Parameter	Type	Description
type	String	Object type. The value can be: <ul style="list-style-type: none"> • DB: indicates a database. • TABLE: indicates a table. • VIEW: indicates a view. • EVENT: indicates an event. • ROUTINE: indicates a stored procedure and function. • INDEX: indicates an index. • TRIGGER: indicates a trigger. • SYNONYM: indicates a synonym. • FUNCTION: indicates a function. • PROCEDURE: indicates a stored procedure. • TYPE: indicates a user-defined type. • RULE: indicates a rule. • DEFAULT_TYPE: indicates a default value. • PLAN_GUIDE: indicates an execution plan. • CONSTRAINT: indicates a constraint. • FILE_GROUP: indicates a file group. • PARTITION_FUNCTION: indicates a partition function. • PARTITION_SCHEME: indicates a partition scheme. • TABLE_COLLATION: indicates table collation. • EXTENSIONS: indicates a plug-in.
source_count	Long	Number of source objects.
target_count	Long	Number of destination objects.

Parameter	Type	Description
status	Integer	Comparison result. <ul style="list-style-type: none"> • 0: The data in the source database is inconsistent with that in the destination database. • 2: The data in the source database is consistent with that in the destination database. • 3: The comparison is not completed.

Status code: 400

Table 7-520 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Obtaining the overview of an object-level health comparison

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/163b98e8-6088-46c3-8b86-c18fea6jb502/health-compare-jobs/object/118d1bdc-b3c8-48a0-af77-3400da6e9291
```

Example Response

Status code: 200

OK

```
{
  "compare_result" : [{
    "type" : "DB",
    "status" : 2,
    "source_count" : 1,
    "target_count" : 1
  }, {
    "type" : "INDEX",
    "status" : 2,
    "source_count" : 2,
    "target_count" : 2
  }, {
    "type" : "TABLE",
    "status" : 2,
    "source_count" : 2,
```



```
"target_count" : 2
}, {
  "type" : "TABLE_COLLATION",
  "status" : 2,
  "source_count" : 2,
  "target_count" : 2
}]
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10000001",
  "error_msg" : "Failed."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.7.6 Querying the Data-Level Streaming Comparison List

Function

This API is used to query the migration progress of different migration tasks. Note:

- Before the task is completed, do not modify the information about all source and destination database users, passwords, and permissions.
- If the status indicates a full or incremental migration is complete, there may still be triggers or events to be migrated before the entire task is finished.

Constraints

This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/jobs/{job_id}/progress-data/{type}

Table 7-521 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.
type	Yes	String	Migration object type. <ul style="list-style-type: none"> • table • event • table_structure • procedure • view • function • database • trigger • table_indexes

Table 7-522 Query parameters

Parameter	Mandatory	Type	Description
limit	No	String	Number of items displayed per page. The default value is 10 . The value ranges from 1 to 1000. Minimum value: 1 Maximum value: 1000 Default value: 10
offset	No	String	Offset, which is the position where the query starts. The value must be greater than or equal to 0. The default value is 0 . Default value: 0

Request Parameters

Table 7-523 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-524 Response body parameters

Parameter	Type	Description
count	Long	Total number.
create_time	String	Data generation time.
flow_compare_data	Array of objects	Comparison result. For details, see Table 7-525 .

Table 7-525 flow_compare_data parameters

Parameter	Type	Description
src_db	String	Source database name.
src_tb	String	Source object name.
dst_db	String	Destination database name.
dst_tb	String	Destination object name.
progress	Integer	Progress.

Status code: 400

Table 7-526 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying the data-level streaming comparison list

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/163b98e8-6088-46c3-8b86-c18fea6jb502/progress-data/table?offset=1&limit=10
```

Example Response

Status code: 200

OK

```
{
  "count": 1,
  "create_time": "1686038576882",
  "flow_compare_data": [
    {
      "src_db": "a",
      "src_tb": "b",
      "dst_db": "c",
      "dst_tb": "d",
      "progress": 10
    }
  ]
}
```

Status code: 400

Bad Request

```
{  
  "error_code": "DRS.M05003",  
  "error_msg": "Task information not found."  
}
```

Error Code

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

7.8 Enterprise Projects

7.8.1 Querying Enterprise Projects

Function

This API is used to query the enterprise projects.

Constraints

This API can be used only in certain regions. For details, see [Endpoints](#).

URI

GET /v5/{project_id}/enterprise-projects

Table 7-527 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Table 7-528 Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0. The default value is 0. Default value: 0

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of items displayed per page. The default value is 1000 . The value ranges from 1 to 1000. Minimum value: 1 Maximum value: 1000 Default value: 1000
name	No	String	Specifies the enterprise project name. Fuzzy search is supported.
domain_id	No	String	ID of the account to which the IAM user belongs. This parameter is mandatory for the op_service permission and optional for non-op_service permissions.

Request Parameters

Table 7-529 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-530 Response body parameters

Parameter	Type	Description
count	Integer	Total number.
enterprise_project_list	Array of objects	Enterprise projects. For details, see Table 7-531 .

Table 7-531 Data structure description of field **enterprise_project_list**

Parameter	Type	Description
id	String	Enterprise project ID.
name	String	Enterprise project name.
description	String	Description.
status	String	Enterprise project status.
created_at	String	Specifies the creation time, for example, 2023-01-20T07:18:26Z .
updated_at	String	Specifies the update time, for example, 2023-03-01T09:42:02Z .

Status code: 400

Table 7-532 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying the enterprise projects

```
https://{endpoint}/v5/{project_id}/enterprise-projects
```

Example Response

Status code: 200

OK

```
{
  "count": 113,
  "enterprise_project_list": [
    {
      "id": "0",
      "name": "default",
      "status": "1"
    },
    {
      "id": "2d8315f3-f25f-4481-a867-b7ef05a4b9c2",
      "name": "eps_test_new_name",
      "status": "1",
      "created_at": "2023-01-20T07:18:26Z",
      "updated_at": "2023-01-20T15:32:29Z"
    },
    {
      "id": "81b344c4-5644-485b-8ea7-398f3b8013cf",
      "name": "(!@$%^_-=+[{]}:./?~#*;|)",
      "status": "1",
      "created_at": "2022-09-27T02:41:22Z",
      "updated_at": "2023-03-01T09:42:02Z"
    },
    {
      "id": "59add094-0be7-49d0-a3ee-22de62f7eb4c",
      "name": "DDS-test01_01",
      "status": "1",
      "created_at": "2022-02-25T08:04:44Z",
      "updated_at": "2022-07-13T03:45:24Z"
    },
    {
      "id": "6e2795dd-6fd1-4413-9038-cf1c1acc0940",
      "name": "gaussdb_test02",
      "description": "gaussdb_test02",
      "status": "1",
      "created_at": "2022-02-25T07:39:05Z",
      "updated_at": "2022-02-25T07:39:05Z"
    }
  ]
}
```



```
]
}
```

Status code: 422

Bad Request

```
{
  "error_code": "DRS.M00277",
  "error_msg": "The task name already exists."
}
```

Error Code

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

7.9 Data Processing

7.9.1 Updating Data Processing Rules for a Specified Task

Function

This API is used to update the data processing rules for a specified task.

URI

PUT /v5/{project_id}/jobs/{job_id}/data-processing-rules

Table 7-533 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-534 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. The token is the value of X-Subject-Token in the response header.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-535 Request body parameters

Parameter	Mandatory	Type	Description
data_process_info	No	Array of objects	Request body for data processing rules for a specified task. For details, see Table 7-536 .

Table 7-536 Data structure description of field **data_process_info**

Parameter	Mandatory	Type	Description
filter_conditions	No	Array of objects	Request body for data processing rules for a specified task. For details, see Table 7-537 .

Parameter	Mandatory	Type	Description
is_batch_process	No	Boolean	The value is true for database-level and batch table-level data processing and false for single-table data processing.
add_columns	No	Array of objects	Additional column. This parameter is mandatory when adding additional columns is required. You must use additional columns to avoid data conflicts in many-to-one operations. For details, see Table 7-538 .
ddl_operation	No	Map<String,String>	DDL operations to be migrated or synchronized in an incremental task. If this parameter is set to table , DDL operations including CREATE TABLE, ALTER TABLE, DROP TABLE, and RENAME TABLE can be migrated or synchronized. If this parameter is left blank, DDL operations cannot be migrated or synchronized.
dml_operation	No	String	DML operations to be migrated or synchronized. <ul style="list-style-type: none"> • i: INSERT • u: UPDATE • d: DELETE If this parameter is left blank, DML operations cannot be migrated or synchronized in an incremental task.
db_object_column_info	No	Object	Column mapping and filtering information. This parameter is mandatory when column mapping and filtering information is required. For details, see Table 7-539 .
db_or_table_rename_rule	No	Object	Database table mapping rule. For details, see Table 7-541 .

Parameter	Mandatory	Type	Description
db_object	No	Object	Data processing object information, which is mandatory when column mapping and data filtering conditions are verified. For details, see Table 7-542 .
is_synchronized	No	Boolean	Whether the rule has been synchronized to the destination database.
source	No	String	Comparison source. <ul style="list-style-type: none"> • job: indicates the data filtering during synchronization. • compare: indicates the data filtering during comparison. Enumerated values: <ul style="list-style-type: none"> • job • compare

Table 7-537 Data structure description of field **filter_conditions**

Parameter	Mandatory	Type	Description
value	No	String	Filtering criteria. If filtering_type is set to configConditionalFilter , value is set to config by default. When filtering_type is set to contentConditionalFilter , value is set to the filtering conditions by default.

Parameter	Mandatory	Type	Description
			<p>NOTE</p> <ul style="list-style-type: none"> • Each table has only one verification rule. • Up to 500 tables can be filtered at a time. • Standard SQL statements can be used to filter records. Each expression cannot contain packages, functions, variables, or constants specific to a database engine. Enter the part following WHERE in the SQL statement (excluding WHERE and semicolons), for example, sid > 3 and sname like "G %". A maximum of 512 characters are allowed. • In SQL statements for setting filter criteria, keywords must be enclosed in backquotes, and the value of datetime (including date and time) must be enclosed in single quotation marks, for example, `update` > '2022-07-13 00:00:00' and age >10. • Filter criteria cannot be configured for large objects, such as CLOB, BLOB, and BYTEA. • Filtering rules cannot be set for objects whose database names and table names contain newline characters. • You are not advised to set filter criteria for fields of approximate numeric types, such as FLOAT, DECIMAL, and DOUBLE. • Do not use fields containing special characters as a filter condition. • You are not advised to use non-idempotent expressions or functions as data processing conditions, such as SYSTIMESTAMP and SYSDATE, because the returned result may be different each time the function is called.

Parameter	Mandatory	Type	Description
filtering_type	No	String	Filter condition type. contentConditionalFilter : simple condition-based filtering. configConditionalFilter : association table filtering. Enumerated values: <ul style="list-style-type: none"> • contentConditionalFilter • configConditionalFilter

Table 7-538 Data structure description of field **add_columns**

Parameter	Mandatory	Type	Description
column_type	No	String	Column type.
column_name	No	String	Column name.
column_value	No	String	Column value.
data_type	No	String	Data type of a column.

Table 7-539 Data structure description of field **db_object_column_info**

Parameter	Mandatory	Type	Description
db_name	No	String	Database name.
schema_name	No	String	Schema name.
table_name	No	String	Table name.
column_infos	No	Array of objects	Column information. For details, see Table 7-540 .
total_count	No	Integer	Total number of database column records, which is irrelevant to pagination and is used only as a return body parameter.

Table 7-540 Data structure description of field **column_infos**

Parameter	Mandatory	Type	Description
column_name	No	String	Column name.

Parameter	Mandatory	Type	Description
column_type	No	String	Column type.
primary_key_or_unique_index	No	String	Primary key or unique index. The value can be: <ul style="list-style-type: none"> • P: primary key • U: unique key • D: distribution key
column_mapped_name	No	String	Mapped column name.
is_filtered	No	Boolean	Whether the column is filtered.
is_partition_key	No	Boolean	Whether the column is a partition column.

Table 7-541 Data structure description of field **db_or_table_rename_rule**

Parameter	Mandatory	Type	Description
prefix_name	No	String	Prefix name. When type is set to prefixAndSuffix , this parameter is mandatory, and only a prefix is added to the database table name. If suffix_name is also specified, both a prefix and a suffix are added to the database table name.
suffix_name	No	String	Suffix name. When type is set to prefixAndSuffix , this parameter is mandatory, and only a suffix is added to the database table name. If prefix_name is also specified, both a prefix and a suffix are added to the database table name.
type	No	String	Database table mapping type. prefixAndSuffix : prefix, suffix, or prefix and suffix. Enumerated values: <ul style="list-style-type: none"> • prefixAndSuffix • manyToOne

Table 7-542 Data structure description of field **db_object**

Parameter	Mandatory	Type	Description
object_scope	Yes	String	Migration or synchronization object scope. The value can be: <ul style="list-style-type: none"> • all: Migrate or synchronize all objects. • database: database-level migration or synchronization. • table: table-level migration or synchronization. Enumerated values: <ul style="list-style-type: none"> • all • database • table
target_root_db	No	Object	Destination database for database object migration or synchronization. This parameter is mandatory for database synchronization from Layer 2 to Layer 3. For details, see Table 7-543 .
object_info	No	Map<String, DatabaseObject>	Object information for migration or synchronization. If object_scope is set to all , leave this parameter blank. If object_scope is set to database or table , this parameter is mandatory. For details, see Table 7-544 .

Table 7-543 Data structure description of field **target_root_db**

Parameter	Mandatory	Type	Description
db_name	No	String	Database name.
db_encoding	No	String	Encoding format. The default value is UTF-8 .

Table 7-544 Data structure description of field **object_info**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the database in real-time synchronization. The value can be: config : This parameter is mandatory only when the database is used as an association database in advanced settings for data filtering. In this case, the database and its schemas and tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in schemas and tables . NOTE To synchronize the database-level object, set sync_type to config for the lower-level object. Enumerated values: <ul style="list-style-type: none">• config
name	No	String	Name of the database in the destination database (database name mapping).

Parameter	Mandatory	Type	Description
all	No	Boolean	<p>Whether to migrate or synchronize the entire database.</p> <p>NOTE</p> <ul style="list-style-type: none"> • If data filtering, column filtering, and column mapping are required for schemas, tables, and columns in the database, set this parameter to false. Otherwise, set this parameter to true. • If additional columns are required for tables in the database, set this parameter to true and enter additional column information in columns of table-level objects. • If the table columns in the database are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
schemas	No	Map<String, SchemaObject >	<p>Schema to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-545.</p>
tables	No	Map<String, TableObject >	<p>Table to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-546.</p>
total_table_number	No	Integer	<p>Number of tables in the database. If the number of tables exceeds the threshold, this parameter is not displayed.</p>
is_synchronized	No	Boolean	<p>Whether data has been synchronized.</p>

Table 7-545 Data structure description of field **schemas**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the schema in real-time synchronization. The value can be: config : This parameter is mandatory only when the schema is used as an association schema in advanced settings for data filtering. In this case, the schema and its tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in tables . NOTE To synchronize the schema-level object, set sync_type to config for the lower-level object.
name	No	String	Name of the schema in the destination database (schema name mapping).
all	No	Boolean	Whether to migrate or synchronize the entire schema. NOTE <ul style="list-style-type: none"> If data filtering, column filtering, and column mapping are required for tables and columns in the schema, set this parameter to false. Otherwise, set this parameter to true. If additional columns are required for tables in the schema, set this parameter to true and enter additional column information in columns of table-level objects. If the table columns in the schema are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.

Parameter	Mandatory	Type	Description
tables	No	Map<String, TableObject >	Table to be migrated or synchronized. This parameter is mandatory when all is set to false .

Table 7-546 Data structure description of field **tables**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the table in real-time synchronization. The value can be: config: This parameter is mandatory only when the table is used as an association table in advanced settings for data filtering. In this case, the table and its columns will not be synchronized to the destination database. The name , all , filtered , and filter_conditions parameters do not take effect. Enter the associated objects in columns and the configuration criteria in advanced settings for data filtering in config_conditions . NOTE To synchronize the schema-level object, set sync_type to config for the lower-level object.
type	No	String	Object type. The value can be: <ul style="list-style-type: none"> ● table: indicates a table. ● view: indicates a view. ● procedure: indicates a stored procedure. Enumerated values: <ul style="list-style-type: none"> ● table ● view ● procedure
name	No	String	Name of the table in the destination database (table name mapping).

Parameter	Mandatory	Type	Description
all	No	Boolean	Whether to migrate or synchronize the entire table. NOTE <ul style="list-style-type: none"> If column filtering and column mapping are not required for the table, set this parameter to true. Otherwise, set this parameter to false. If additional columns are required for the table, set this parameter to true and enter additional column information in columns. If the table columns are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
db_alias_name	No	String	Mapping of database names at the table level in the one-to-many scenario.
schema_alias_name	No	String	Mapping of schema names at the table level in the one-to-many scenario.
filtered	No	Boolean	Whether to filter data in the table.
filter_conditions	No	Array of strings	Filtering criteria for the table data. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512

Parameter	Mandatory	Type	Description
config_conditions	No	Array of strings	Configuration criteria in advanced settings for data filtering of the table. This parameter is mandatory when the table is used as an association table for query. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512
is_synchronized	No	Boolean	Whether synchronization has been performed.
columns	No	Map<String,ColumnObject>	Columns to be synchronized, mapped, filtered, or added. This parameter is mandatory when column filtering, column mapping, and additional columns are required. This parameter takes effect only in real-time synchronization tasks. This parameter is mandatory when all is set to false . For details, see Table 7-547 .

Table 7-547 Data structure description of field columns

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the column in real-time synchronization. The value can be: config: This parameter is mandatory only when the column is used as an association column in advanced settings for data filtering. If the column is a primary key column or index column required for optimizing the query, primary_key_for_data_filtering or index_for_data_filtering is mandatory. NOTE Whether to synchronize the column to the destination database depends on the filtered parameter, which is different from the database, schema, and table-level synchronization.
primary_key_for_data_filtering	No	String	Whether the column is a primary key column in advanced settings for data filtering. If the column is a primary key column, set this parameter to the column name. Otherwise, leave this parameter blank.
index_for_data_filtering	No	String	Whether the column is an index column required for optimizing the query. The index is added to the cached data. It does not affect the source table. If the column is an index column in advanced settings for data filtering, this parameter is mandatory. Otherwise, leave this parameter blank.

Parameter	Mandatory	Type	Description
name	No	String	Name of the column in the destination database (column name mapping). If the column is an additional column, the value must be the same as the column name in the table-level object.
type	No	String	Data type of the column. Column filtering: Enter the data type of the source column. Additional column adding: Enter the data type of the new column. The values and constraints vary depending on the operation type. The value can be: <ul style="list-style-type: none"> • Default: The value can be int, long, varchar(256), datetime, or timestamp. • create_time: The value can be long, datetime, or timestamp. • update_time: The value can be long, datetime, or timestamp. • Expression: The value can be varchar (256), and the column value must be concat(_current_database, '@', _current_table). • serverName@database@table: The value can be varchar(256).
primary_key_for_column_filtering	No	String	Whether the column is a primary key column in column mapping. If the column is a primary key column, set this parameter to PRI . Otherwise, leave this parameter blank.

Parameter	Mandatory	Type	Description
filtered	No	Boolean	<p>Whether the column is filtered out. This parameter cannot be used together with the additional parameter. The value can be:</p> <ul style="list-style-type: none"> • true: indicates that the column will be synchronized. • false: indicates that the column is filtered out and will not be synchronized.
additional	No	Boolean	<p>Whether the column is an additional column. If the column is an additional column, the value of name must be the same as the column name in the table-level object and cannot be used together with the filtered parameter.</p>
operation_type	No	String	<p>Operation type. The new column is filled with a specific operation type. The value can be:</p> <ul style="list-style-type: none"> • Default: "operation_type":"ADDITIONALCOLUMN,default_value" • create_time: "operation_type":"ADDITIONALCOLUMN,create_time" • update_time: "operation_type":"ADDITIONALCOLUMN,update_time" • Expression: "operation_type":"ADDITIONALCOLUMN,expression" • serverName@database@table: "operation_type":"ADDITIONALCOLUMN,server_database_table"

Parameter	Mandatory	Type	Description
value	No	String	Value of the additional column. Constraints: <ul style="list-style-type: none"> This parameter is mandatory only when operation type is set to Default or serverName@database@table. When operation type is set to Expression, this parameter has a fixed value of concat(_current_database, '@', _current_table).

Response Parameters

Status code: 202

Table 7-548 Response body parameters

Parameter	Type	Description
id	String	Query result ID.
job_id	String	Task ID.
status	String	Query status. Enumerated values: <ul style="list-style-type: none"> pending failed success

Status code: 400

Table 7-549 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12

Parameter	Type	Description
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Updating the mapping information, column information, data filtering information, additional column information, DDL information, and DML information of a database table

PUT <https://{endPoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/data-processing-rules>

```
{
  "data_process_info": [ {
    "filter_conditions": [ {
      "filtering_type": "contentConditionalFilter",
      "value": "id>1"
    } ],
    "is_batch_process": false,
    "add_columns": [ {
      "column_type": "ADDITIONALCOLUMN,create_time",
      "column_name": "id",
      "column_value": "_create_timestamp",
      "data_type": "long"
    } ],
    "ddl_operation": {
      "table": "ct,at"
    },
    "dml_operation": "i,u",
    "db_object_column_info": {
      "db_name": "testDb",
      "schema_name": "testSchema",
      "table_name": "testTable",
      "column_infos": [ {
        "column_name": "ID",
        "column_type": "NUMBER",
        "primary_key_or_unique_index": "P",
        "column_mapped_name": null,
        "is_filtered": false,
        "is_partition_key": true
      }, {
        "column_name": "C1",
        "column_type": "VARCHAR2",
        "primary_key_or_unique_index": null,
        "column_mapped_name": "t1",
        "is_filtered": false,
        "is_partition_key": false
      }, {
        "column_name": "C2",
        "column_type": "VARCHAR2",
        "primary_key_or_unique_index": null,
        "column_mapped_name": null,
        "is_filtered": true,
        "is_partition_key": false
      }, {
        "column_name": "C1",
        "column_type": "VARCHAR2",
        "primary_key_or_unique_index": null,
        "column_mapped_name": null,
        "is_filtered": false,

```

```
    "is_partition_key" : false
  } ]
},
"db_or_table_rename_rule" : {
  "type" : "prefixAndSuffix",
  "prefix_name" : "test"
},
"db_object" : {
  "object_info" : {
    "dyh4" : {
      "name" : "dyh4",
      "all" : false,
      "tables" : {
        "test1_table1" : {
          "name" : "test1_table1",
          "type" : "table",
          "all" : true
        },
        "test1_table10" : {
          "name" : "test1_table10",
          "type" : "table",
          "all" : true
        },
        "test1_table11" : {
          "name" : "test1_table11",
          "type" : "table",
          "all" : true
        }
      }
    }
  }
},
"object_scope" : "table"
} ]
}
```

Example Response

Status code: 202

Accept

```
{
  "id" : "0eacda0b-9422-4535-8b62-537d1833638b",
  "job_id" : "177738d1-4eee-4fcb-a4e1-09aea79jb20i",
  "status" : "pending"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10000010",
  "error_msg" : "Job does not exist, please check job ID."
}
```

Status Code

Status Code	Description
202	Accept
400	Bad Request

Error Code

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

7.9.2 Obtaining the Data Processing Rule Update Result for a Specified Task

Function

This API is used to obtain the data processing rule update result for a specified task.

URI

GET /v5/{project_id}/jobs/{job_id}/data-processing-rules/result

Table 7-550 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-551 Query parameters

Parameter	Mandatory	Type	Description
query_id	Yes	String	ID of the data processing rule update request

Request Parameters

Table 7-552 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. The token is the value of X-Subject-Token in the response header.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-553 Response body parameters

Parameter	Type	Description
id	String	Query result ID.
job_id	String	Task ID.
status	String	Query status. Enumerated values: <ul style="list-style-type: none"> • pending • failed • success

Status code: 400

Table 7-554 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12

Parameter	Type	Description
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Obtaining the data processing rule update result for a specified task

```
GET https://{endPoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/data-processing-rules/result?query_id=009bb221-2794-4767-91e6-6ed7f79792b4
```

Example Response

Status code: 200

OK

```
{
  "id": "009bb221-2794-4767-91e6-6ed7f79792b4",
  "job_id": "177738d1-4eee-4fcb-a4e1-09aea79jb20i",
  "status": "success"
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.10000010",
  "error_msg": "Job does not exist, please check job ID."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.9.3 Querying Data Processing Rules

Function

This API is used to query data processing rules, including database table mapping information, column information, data filtering information, additional column information, DDL information, and DML information.

URI

GET /v5/{project_id}/jobs/{job_id}/data-processing-rules

Table 7-555 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-556 Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset. The records after this offset will be queried.
limit	No	Integer	Maximum number of records that can be returned.

Request Parameters

Table 7-557 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. The token is the value of X-Subject-Token in the response header.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-558 Response body parameters

Parameter	Type	Description
data_process_info	Array of objects	Response body for data processing rules. For details, see Table 7-559 .
count	Integer	Total number of data processing rules.

Table 7-559 Data structure description of field **data_process_info**

Parameter	Type	Description
filter_conditions	Array of objects	Request body for data processing rules for a specified task. For details, see Table 7-560 .
is_batch_process	Boolean	The value is true for database-level and batch table-level data processing and false for single-table data processing.
add_columns	Array of objects	Additional column. This parameter is mandatory when adding additional columns is required. For details, see Table 7-561 . NOTE You must use additional columns to avoid data conflicts in many-to-one operations.

Parameter	Type	Description
ddl_operation	Map<String,String>	DDL operations to be migrated or synchronized in an incremental task. The value can be: If this parameter is set to table , DDL operations including CREATE TABLE, ALTER TABLE, DROP TABLE, and RENAME TABLE can be migrated or synchronized. If this parameter is left blank, DDL operations cannot be migrated or synchronized.
dml_operation	String	DML operations to be migrated or synchronized. <ul style="list-style-type: none"> • i: INSERT • u: UPDATE • d: DELETE If this parameter is left blank, DML operations cannot be migrated or synchronized in an incremental task.
db_object_column_info	Object	Column mapping and filtering information. This parameter is mandatory when column mapping and filtering information is required. For details, see Table 7-562 .
db_or_table_rename_rule	Object	Database table mapping rule. For details, see Table 7-564 .
db_object	Object	Data processing object information, which is mandatory when column mapping and data filtering conditions are verified. For details, see Table 7-565 .
is_synchronized	Boolean	Whether the rule has been synchronized to the destination database.
source	String	Comparison source. <ul style="list-style-type: none"> • job: indicates the data filtering during synchronization. • compare: indicates the data filtering during comparison. Enumerated values: <ul style="list-style-type: none"> • job • compare

Table 7-560 Data structure description of field **filter_conditions**

Parameter	Type	Description
value	String	<p>Filtering criteria. If filtering_type is set to configConditionalFilter, value is set to config by default. When filtering_type is set to contentConditionalFilter, value is set to the filtering conditions by default.</p> <p>NOTE</p> <ul style="list-style-type: none"> • Each table has only one verification rule. • Up to 500 tables can be filtered at a time. • Standard SQL statements can be used to filter records. Each expression cannot contain packages, functions, variables, or constants specific to a database engine. Enter the part following WHERE in the SQL statement (excluding WHERE and semicolons), for example, sid > 3 and sname like "G %". A maximum of 512 characters are allowed. • In SQL statements for setting filter criteria, keywords must be enclosed in backquotes, and the value of datetime (including date and time) must be enclosed in single quotation marks, for example, `update` > '2022-07-13 00:00:00' and age >10. • Filter criteria cannot be configured for large objects, such as CLOB, BLOB, and BYTEA. • Filtering rules cannot be set for objects whose database names and table names contain newline characters. • You are not advised to set filter criteria for fields of approximate numeric types, such as FLOAT, DECIMAL, and DOUBLE. • Do not use fields containing special characters as a filter condition. • You are not advised to use non-idempotent expressions or functions as data processing conditions, such as SYSTIMESTAMP and SYSDATE, because the returned result may be different each time the function is called.
filtering_type	String	<p>Filter condition type.</p> <ul style="list-style-type: none"> • contentConditionalFilter: simple condition-based filtering. • configConditionalFilter: association table filtering. <p>Enumerated values:</p> <ul style="list-style-type: none"> • contentConditionalFilter • configConditionalFilter

Table 7-561 Data structure description of field **add_columns**

Parameter	Type	Description
column_type	String	Column type.
column_name	String	Column name.
column_value	String	Column value.
data_type	String	Data type of a column.

Table 7-562 Data structure description of field **db_object_column_info**

Parameter	Type	Description
db_name	String	Database name.
schema_name	String	Schema name.
table_name	String	Table name.
column_infos	Array of objects	Column information. For details, see Table 7-563 .
total_count	Integer	Total number of database column records, which is irrelevant to pagination and is used only as a return body parameter.

Table 7-563 Data structure description of field **column_infos**

Parameter	Type	Description
column_name	String	Column name.
column_type	String	Column type.
primary_key_or_unique_index	String	Primary key or unique index.
column_mapped_name	String	Mapped column name.
is_filtered	Boolean	Whether the column is filtered.
is_partition_key	Boolean	Whether the column is a partition column.

Table 7-564 Data structure description of field **db_or_table_rename_rule**

Parameter	Type	Description
prefix_name	String	Prefix name. When type is set to prefixAndSuffix , this parameter is mandatory, and only a prefix is added to the database table name. If suffix_name is also specified, both a prefix and a suffix are added to the database table name.
suffix_name	String	Suffix name. When type is set to prefixAndSuffix , this parameter is mandatory, and only a suffix is added to the database table name. If prefix_name is also specified, both a prefix and a suffix are added to the database table name.
type	String	Database table mapping type. prefixAndSuffix : prefix, suffix, or prefix and suffix. Enumerated values: <ul style="list-style-type: none"> • prefixAndSuffix • manyToOne

Table 7-565 Data structure description of field **db_object**

Parameter	Type	Description
object_scope	String	Migration or synchronization object scope. The value can be: <ul style="list-style-type: none"> • all: Migrate or synchronize all objects. • database: database-level migration or synchronization. • table: table-level migration or synchronization. Enumerated values: <ul style="list-style-type: none"> • all • database • table
target_root_db	Object	Destination database for database object migration or synchronization. This parameter is mandatory for database synchronization from Layer 2 to Layer 3. For details, see Table 7-566 .

Parameter	Type	Description
object_info	Map<String, DatabaseObject>	Object information for migration or synchronization. If object_scope is set to all , leave this parameter blank. If object_scope is set to database or table , this parameter is mandatory. For details, see Table 7-567 .

Table 7-566 Data structure description of field **target_root_db**

Parameter	Type	Description
db_name	String	Database name.
db_encoding	String	Encoding format. The default value is UTF-8 .

Table 7-567 Data structure description of field **object_info**

Parameter	Type	Description
sync_type	String	Type of the database in real-time synchronization. The value can be: config : This parameter is mandatory only when the database is used as an association database in advanced settings for data filtering. In this case, the database and its schemas and tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in schemas and tables . NOTE To synchronize the database-level object, set sync_type to config for the lower-level object. Enumerated values: <ul style="list-style-type: none"> config
name	String	Name of the database in the destination database (database name mapping).

Parameter	Type	Description
all	Boolean	<p>Whether to migrate or synchronize the entire database.</p> <p>NOTE</p> <ul style="list-style-type: none"> If data filtering, column filtering, and column mapping are required for schemas, tables, and columns in the database, set this parameter to false. Otherwise, set this parameter to true. If additional columns are required for tables in the database, set this parameter to true and enter additional column information in columns of table-level objects. If the table columns in the database are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
schemas	Map<String, SchemaObject >	<p>Schema to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-568.</p>
tables	Map<String, TableObject >	<p>Table to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-569.</p>
total_table_number	Integer	<p>Number of tables in the database. If the number of tables exceeds the threshold, this parameter is not displayed.</p>
is_synchronized	Boolean	<p>Whether data has been synchronized.</p>

Table 7-568 Data structure description of field **schemas**

Parameter	Type	Description
sync_type	String	Type of the schema in real-time synchronization. The value can be: config : This parameter is mandatory only when the schema is used as an association schema in advanced settings for data filtering. In this case, the schema and its tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in tables . NOTE To synchronize the schema-level object, set sync_type to config for the lower-level object.
name	String	Name of the schema in the destination database (schema name mapping).
all	Boolean	Whether to migrate or synchronize the entire schema. NOTE <ul style="list-style-type: none"> If data filtering, column filtering, and column mapping are required for tables and columns in the schema, set this parameter to false. Otherwise, set this parameter to true. If additional columns are required for tables in the schema, set this parameter to true and enter additional column information in columns of table-level objects. If the table columns in the schema are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
tables	Map<String, TableObject >	Table to be migrated or synchronized. This parameter is mandatory when all is set to false . For details, see Table 7-569 .

Table 7-569 Data structure description of field **tables**

Parameter	Type	Description
sync_type	String	Type of the table in real-time synchronization. The value can be: config : This parameter is mandatory only when the table is used as an association table in advanced settings for data filtering. In this case, the table and its columns will not be synchronized to the destination database. The name , all , filtered , and filter_conditions parameters do not take effect. Enter the associated objects in columns and the configuration criteria in advanced settings for data filtering in config_conditions . NOTE To synchronize the table-level object, set sync_type to config for the lower-level object.
type	String	Object type. The value can be: <ul style="list-style-type: none"> ● table: indicates a table. ● view: indicates a view. ● procedure: indicates a stored procedure. Enumerated values: <ul style="list-style-type: none"> ● table ● view ● procedure
name	String	Name of the table in the destination database (table name mapping).
all	Boolean	Whether to migrate or synchronize the entire table. NOTE <ul style="list-style-type: none"> ● If column filtering and column mapping are not required for the table, set this parameter to true. Otherwise, set this parameter to false. ● If additional columns are required for the table, set this parameter to true and enter additional column information in columns. ● If the table columns are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
db_alias_name	String	Mapping of database names at the table level in the one-to-many scenario.
schema_alias_name	String	Mapping of schema names at the table level in the one-to-many scenario.

Parameter	Type	Description
filtered	Boolean	Whether to filter data in the table.
filter_conditions	Array of strings	Filtering criteria for the table data. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512
config_conditions	Array of strings	Configuration criteria in advanced settings for data filtering of the table. This parameter is mandatory when the table is used as an association table for query. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512
is_synchronized	Boolean	Whether synchronization has been performed.
columns	Map<String, ColumnObject>	Columns to be synchronized, mapped, filtered, or added. This parameter is mandatory when column filtering, column mapping, and additional columns are required. This parameter takes effect only in real-time synchronization tasks. This parameter is mandatory when all is set to false . For details, see Table 7-570 .

Table 7-570 Data structure description of field **columns**

Parameter	Type	Description
sync_type	String	Type of the column in real-time synchronization. The value can be: config : This parameter is mandatory only when the column is used as an association column in advanced settings for data filtering. If the column is a primary key column or index column required for optimizing the query, primary_key_for_data_filtering or index_for_data_filtering is mandatory. NOTE Whether to synchronize the column to the destination database depends on the filtered parameter, which is different from the database, schema, and table-level synchronization.

Parameter	Type	Description
primary_key_for_data_filtering	String	Whether the column is a primary key column in advanced settings for data filtering. If the column is a primary key column, set this parameter to the column name. Otherwise, leave this parameter blank.
index_for_data_filtering	String	Whether the column is an index column required for optimizing the query. The index is added to the cached data. It does not affect the source table. If the column is an index column in advanced settings for data filtering, this parameter is mandatory. Otherwise, leave this parameter blank.
name	String	Name of the column in the destination database (column name mapping). If the column is an additional column, the value must be the same as the column name in the table-level object.
type	String	Data type of the column. Column filtering: Enter the data type of the source column. Additional column adding: Enter the data type of the new column. The values and constraints vary depending on the operation type. The value can be: <ul style="list-style-type: none"> • Default: The value can be int, long, varchar(256), datetime, or timestamp. • create_time: The value can be long, datetime, or timestamp. • update_time: The value can be long, datetime, or timestamp. • Expression: The value can be varchar(256), and the column value must be concat(__current_database, '@', __current_table). • serverName@database@table: The value can be varchar(256).
primary_key_for_column_filtering	String	Whether the column is a primary key column in column mapping. If the column is a primary key column, set this parameter to PRI . Otherwise, leave this parameter blank.

Parameter	Type	Description
filtered	Boolean	Whether the column is filtered out. This parameter cannot be used together with the additional parameter. The value can be: <ul style="list-style-type: none"> • true: indicates that the column will be synchronized. • false: indicates that the column is filtered out and will not be synchronized.
additional	Boolean	Whether the column is an additional column. If the column is an additional column, the value of name must be the same as the column name in the table-level object and cannot be used together with the filtered parameter.
operation_type	String	Operation type. The new column is filled with a specific operation type. The value can be: <ul style="list-style-type: none"> • Default: "operation_type":"ADDITIONALCOLUMN,default_value" • create_time: "operation_type":"ADDITIONALCOLUMN,create_time" • update_time: "operation_type":"ADDITIONALCOLUMN,update_time" • Expression: "operation_type":"ADDITIONALCOLUMN,expression" • serverName@database@table: "operation_type":"ADDITIONALCOLUMN,server_database_table"
value	String	Value of the additional column. Constraints: <ul style="list-style-type: none"> • This parameter is mandatory only when operation type is set to Default or serverName@database@table. • When operation type is set to Expression, this parameter has a fixed value of concat(__current_database, '@', __current_table).

Status code: 400

Table 7-571 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Querying data processing rules

```
GET https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/data-processing-rules
```

Example Response

Status code: 200

OK

```
{
  "data_process_info": [ {
    "filter_conditions": [ {
      "value": "id>1"
    } ],
    "is_batch_process": false,
    "add_columns": [ {
      "column_type": "ADDITIONALCOLUMN,create_time",
      "column_name": "id",
      "column_value": "__create_timestamp",
      "data_type": "long"
    } ],
    "ddl_operation": {
      "table": "ct,at"
    },
    "dmL_operation": "i,u",
    "db_object_column_info": [ {
      "db_name": "testDb",
      "schema_name": "testSchema",
      "table_name": "testTable",
      "column_infos": [ {
        "column_name": "ID",
        "column_type": "NUMBER",
        "primary_key_or_unique_index": "P",
        "column_mapped_name": null,
        "is_filtered": false,
        "is_partition_key": true
      }, {
        "column_name": "C1",
        "column_type": "VARCHAR2",
        "primary_key_or_unique_index": null,
        "column_mapped_name": "t1",
        "is_filtered": false,
        "is_partition_key": false
      }, {
        "column_name": "C2",
```

```
"column_type" : "VARCHAR2",
"primary_key_or_unique_index" : null,
"column_mapped_name" : null,
"is_filtered" : true,
"is_partition_key" : false
}, {
"column_name" : "C1",
"column_type" : "VARCHAR2",
"primary_key_or_unique_index" : null,
"column_mapped_name" : null,
"is_filtered" : false,
"is_partition_key" : false
}
}],
"db_or_table_rename_rule" : {
"prefix_name" : "test"
},
"db_object" : {
"object_info" : {
"dyh4" : {
"name" : "dyh4",
"all" : false,
"tables" : {
"test1_table1" : {
"name" : "test1_table1",
"type" : "table",
"all" : true
},
"test1_table10" : {
"name" : "test1_table10",
"type" : "table",
"all" : true
},
"test1_table11" : {
"name" : "test1_table11",
"type" : "table",
"all" : true
}
}
}
}
},
"object_scope" : "table"
}
}],
"count" : 1
}
```

Status code: 400

Bad Request

```
{
"error_code" : "DRS.10000010",
"error_msg" : "Job does not exist, please check job ID."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.9.4 Verifying Data Filtering Rules

Function

This API is used to verify data filtering rules.

URI

POST /v5/{project_id}/job/{job_id}/data-filtering/check

Table 7-572 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-573 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. The token is the value of X-Subject-Token in the response header.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-574 Request body parameters

Parameter	Mandatory	Type	Description
data_process_info	No	Array of objects	Request body for data processing rules for a specified task. For details, see Table 7-575 .

Table 7-575 Data structure description of field **data_process_info**

Parameter	Mandatory	Type	Description
filter_conditions	No	Array of objects	Request body for data processing rules for a specified task. For details, see Table 7-576 .
is_batch_process	No	Boolean	The value is true for database-level and batch table-level data processing and false for single-table data processing.
add_columns	No	Array of objects	Additional column. This parameter is mandatory when adding additional columns is required. NOTE You must use additional columns to avoid data conflicts in many-to-one operations. For details, see Table 7-577 .

Parameter	Mandatory	Type	Description
ddl_operation	No	Map<String,String>	DDL operations to be migrated or synchronized in an incremental task. The value can be: If this parameter is set to table , DDL operations including CREATE TABLE, ALTER TABLE, DROP TABLE, and RENAME TABLE can be migrated or synchronized. If this parameter is left blank, DDL operations cannot be migrated or synchronized.
dml_operation	No	String	DML operations to be migrated or synchronized. <ul style="list-style-type: none"> • i: INSERT • u: UPDATE • d: DELETE If this parameter is left blank, DML operations cannot be migrated or synchronized in an incremental task.
db_object_column_info	No	Object	Column mapping and filtering information. This parameter is mandatory when column mapping and filtering information is required. For details, see Table 7-578 .
db_or_table_rename_rule	No	Object	Database table mapping rule. For details, see Table 7-580 .
db_object	No	Object	Data processing object information, which is mandatory when column mapping and data filtering conditions are verified. For details, see Table 7-581 .
is_synchronized	No	Boolean	Whether the rule has been synchronized to the destination database.

Parameter	Mandatory	Type	Description
source	No	String	Comparison source. <ul style="list-style-type: none">• job: indicates the data filtering during synchronization.• compare: indicates the data filtering during comparison. Enumerated values: <ul style="list-style-type: none">• job• compare

Table 7-576 Data structure description of field **filter_conditions**

Parameter	Mandatory	Type	Description
value	No	String	Filtering criteria. If filtering_type is set to configConditionalFilter , value is set to config by default. When filtering_type is set to contentConditionalFilter , value is set to the filtering conditions by default.

Parameter	Mandatory	Type	Description
			<p>NOTE</p> <ul style="list-style-type: none"> • Each table has only one verification rule. • Up to 500 tables can be filtered at a time. • Standard SQL statements can be used to filter records. Each expression cannot contain packages, functions, variables, or constants specific to a database engine. Enter the part following WHERE in the SQL statement (excluding WHERE and semicolons), for example, sid > 3 and sname like "G %". A maximum of 512 characters are allowed. • In SQL statements for setting filter criteria, keywords must be enclosed in backquotes, and the value of datetime (including date and time) must be enclosed in single quotation marks, for example, `update` > '2022-07-13 00:00:00' and age >10. • Filter criteria cannot be configured for large objects, such as CLOB, BLOB, and BYTEA. • Filtering rules cannot be set for objects whose database names and table names contain newline characters. • You are not advised to set filter criteria for fields of approximate numeric types, such as FLOAT, DECIMAL, and DOUBLE. • Do not use fields containing special characters as a filter condition. • You are not advised to use non-idempotent expressions or functions as data processing conditions, such as SYSTIMESTAMP and SYSDATE, because the returned result may be different each time the function is called.

Parameter	Mandatory	Type	Description
filtering_type	No	String	Filter condition type. <ul style="list-style-type: none"> • contentConditionalFilter: simple condition-based filtering. • configConditionalFilter: association table filtering. Enumerated values: <ul style="list-style-type: none"> • contentConditionalFilter • configConditionalFilter

Table 7-577 Data structure description of field **add_columns**

Parameter	Mandatory	Type	Description
column_type	No	String	Column type.
column_name	No	String	Column name.
column_value	No	String	Column value.
data_type	No	String	Data type of a column.

Table 7-578 Data structure description of field **db_object_column_info**

Parameter	Mandatory	Type	Description
db_name	No	String	Database name.
schema_name	No	String	Schema name.
table_name	No	String	Table name.
column_infos	No	Array of objects	Column information. For details, see Table 7-579 .
total_count	No	Integer	Total number of database column records, which is irrelevant to pagination and is used only as a return body parameter.

Table 7-579 Data structure description of field **column_infos**

Parameter	Mandatory	Type	Description
column_name	No	String	Column name.

Parameter	Mandatory	Type	Description
column_type	No	String	Column type.
primary_key_or_unique_index	No	String	Primary key or unique index.
column_mapped_name	No	String	Mapped column name.
is_filtered	No	Boolean	Whether the column is filtered.
is_partition_key	No	Boolean	Whether the column is a partition column.

Table 7-580 Data structure description of field **db_or_table_rename_rule**

Parameter	Mandatory	Type	Description
prefix_name	No	String	Prefix name. When type is set to prefixAndSuffix , this parameter is mandatory, and only a prefix is added to the database table name. If suffix_name is also specified, both a prefix and a suffix are added to the database table name.
suffix_name	No	String	Suffix name. When type is set to prefixAndSuffix , this parameter is mandatory, and only a suffix is added to the database table name. If prefix_name is also specified, both a prefix and a suffix are added to the database table name.
type	No	String	Database table mapping type. prefixAndSuffix : prefix, suffix, or prefix and suffix. Enumerated values: <ul style="list-style-type: none"> • prefixAndSuffix • manyToOne

Table 7-581 Data structure description of field **db_object**

Parameter	Mandatory	Type	Description
object_scope	Yes	String	<p>Migration or synchronization object scope. The value can be:</p> <ul style="list-style-type: none"> • all: Migrate or synchronize all objects. • database: database-level migration or synchronization. • table: table-level migration or synchronization. <p>Enumerated values:</p> <ul style="list-style-type: none"> • all • database • table
target_root_db	No	Object	<p>Destination database for database object migration or synchronization. This parameter is mandatory for database synchronization from Layer 2 to Layer 3.</p> <p>For details, see Table 7-582.</p>
object_info	No	Map<String, DatabaseObject>	<p>Object information for migration or synchronization. If object_scope is set to all, leave this parameter blank. If object_scope is set to database or table, this parameter is mandatory.</p> <p>For details, see Table 7-583.</p>

Table 7-582 Data structure description of field **target_root_db**

Parameter	Mandatory	Type	Description
db_name	No	String	Database name.
db_encoding	No	String	Encoding format. The default value is UTF-8 .

Table 7-583 Data structure description of field **object_info**

Parameter	Mandatory	Type	Description
sync_type	No	String	<p>Type of the database in real-time synchronization. The value can be:</p> <p>config: This parameter is mandatory only when the database is used as an association database in advanced settings for data filtering. In this case, the database and its schemas and tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in schemas and tables.</p> <p>NOTE To synchronize the database-level object, set sync_type to config for the lower-level object.</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • config
name	No	String	Name of the database in the destination database (database name mapping).

Parameter	Mandatory	Type	Description
all	No	Boolean	<p>Whether to migrate or synchronize the entire database.</p> <p>NOTE</p> <ul style="list-style-type: none"> • If data filtering, column filtering, and column mapping are required for schemas, tables, and columns in the database, set this parameter to false. Otherwise, set this parameter to true. • If additional columns are required for tables in the database, set this parameter to true and enter additional column information in columns of table-level objects. • If the table columns in the database are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
schemas	No	Map<String, SchemaObject >	<p>Schema to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-584.</p>
tables	No	Map<String, TableObject >	<p>Table to be migrated or synchronized. This parameter is mandatory when all is set to false.</p> <p>For details, see Table 7-585.</p>
total_table_number	No	Integer	<p>Number of tables in the database. If the number of tables exceeds the threshold, this parameter is not displayed.</p>
is_synchronized	No	Boolean	<p>Whether data has been synchronized.</p>

Table 7-584 Data structure description of field **schemas**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the schema in real-time synchronization. The value can be: config : This parameter is mandatory only when the schema is used as an association schema in advanced settings for data filtering. In this case, the schema and its tables will not be synchronized to the destination database. The name and all parameters do not take effect. Enter the associated objects in tables . NOTE To synchronize the schema-level object, set sync_type to config for the lower-level object.
name	No	String	Name of the schema in the destination database (schema name mapping).
all	No	Boolean	Whether to migrate or synchronize the entire schema. NOTE <ul style="list-style-type: none"> If data filtering, column filtering, and column mapping are required for tables and columns in the schema, set this parameter to false. Otherwise, set this parameter to true. If additional columns are required for tables in the schema, set this parameter to true and enter additional column information in columns of table-level objects. If the table columns in the schema are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.

Parameter	Mandatory	Type	Description
tables	No	Map<String, TableObject >	Table to be migrated or synchronized. This parameter is mandatory when all is set to false . For details, see Table 7-585 .

Table 7-585 Data structure description of field **tables**

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the table in real-time synchronization. The value can be: config: This parameter is mandatory only when the table is used as an association table in advanced settings for data filtering. In this case, the table and its columns will not be synchronized to the destination database. The name , all , filtered , and filter_conditions parameters do not take effect. Enter the associated objects in columns and the configuration criteria in advanced settings for data filtering in config_conditions . NOTE To synchronize the schema-level object, set sync_type to config for the lower-level object.
type	No	String	Object type. The value can be: <ul style="list-style-type: none"> ● table: indicates a table. ● view: indicates a view. ● procedure: indicates a stored procedure. Enumerated values: <ul style="list-style-type: none"> ● table ● view ● procedure
name	No	String	Name of the table in the destination database (table name mapping).

Parameter	Mandatory	Type	Description
all	No	Boolean	Whether to migrate or synchronize the entire table. NOTE <ul style="list-style-type: none"> If column filtering and column mapping are not required for the table, set this parameter to true. Otherwise, set this parameter to false. If additional columns are required for the table, set this parameter to true and enter additional column information in columns. If the table columns are used as association columns in advanced settings for data filtering, set this parameter to true, enter the association column information in columns, and enter the configuration criteria in advanced settings for data filtering in config_conditions.
db_alias_name	No	String	Mapping of database names at the table level in the one-to-many scenario.
schema_alias_name	No	String	Mapping of schema names at the table level in the one-to-many scenario.
filtered	No	Boolean	Whether to filter data in the table.
filter_conditions	No	Array of strings	Filtering criteria for the table data. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512

Parameter	Mandatory	Type	Description
config_conditions	No	Array of strings	Configuration criteria in advanced settings for data filtering of the table. This parameter is mandatory when the table is used as an association table for query. The processing rule value is a SQL statement. The value contains a maximum of 512 characters. Minimum length: 0 Maximum length: 512
is_synchronized	No	Boolean	Whether synchronization has been performed.
columns	No	Map<String,ColumnObject>	Columns to be synchronized, mapped, filtered, or added. This parameter is mandatory when column filtering, column mapping, and additional columns are required. This parameter takes effect only in real-time synchronization tasks. This parameter is mandatory when all is set to false . For details, see Table 7-586 .

Table 7-586 Data structure description of field columns

Parameter	Mandatory	Type	Description
sync_type	No	String	Type of the column in real-time synchronization. The value can be: config: This parameter is mandatory only when the column is used as an association column in advanced settings for data filtering. If the column is a primary key column or index column required for optimizing the query, primary_key_for_data_filtering or index_for_data_filtering is mandatory. NOTE Whether to synchronize the column to the destination database depends on the filtered parameter, which is different from the database, schema, and table-level synchronization.
primary_key_for_data_filtering	No	String	Whether the column is a primary key column in advanced settings for data filtering. If the column is a primary key column, set this parameter to the column name. Otherwise, leave this parameter blank.
index_for_data_filtering	No	String	Whether the column is an index column required for optimizing the query. The index is added to the cached data. It does not affect the source table. If the column is an index column in advanced settings for data filtering, this parameter is mandatory. Otherwise, leave this parameter blank.

Parameter	Mandatory	Type	Description
name	No	String	Name of the column in the destination database (column name mapping). If the column is an additional column, the value must be the same as the column name in the table-level object.
type	No	String	Data type of the column. Column filtering: Enter the data type of the source column. Additional column adding: Enter the data type of the new column. The values and constraints vary depending on the operation type. The value can be: <ul style="list-style-type: none"> • Default: The value can be int, long, varchar(256), datetime, or timestamp. • create_time: The value can be long, datetime, or timestamp. • update_time: The value can be long, datetime, or timestamp. • Expression: The value can be varchar (256), and the column value must be concat(_current_database, '@', _current_table). • serverName@database@table: The value can be varchar(256).
primary_key_filter_or_column_filtering	No	String	Whether the column is a primary key column in column mapping. If the column is a primary key column, set this parameter to PRI . Otherwise, leave this parameter blank.

Parameter	Mandatory	Type	Description
filtered	No	Boolean	<p>Whether the column is filtered out. This parameter cannot be used together with the additional parameter. The value can be:</p> <ul style="list-style-type: none"> • true: indicates that the column will be synchronized. • false: indicates that the column is filtered out and will not be synchronized.
additional	No	Boolean	<p>Whether the column is an additional column. If the column is an additional column, the value of name must be the same as the column name in the table-level object and cannot be used together with the filtered parameter.</p>
operation_type	No	String	<p>Operation type. The new column is filled with a specific operation type. The value can be:</p> <ul style="list-style-type: none"> • Default: "operation_type":"ADDITIONALCOLUMN,default_value" • create_time: "operation_type":"ADDITIONALCOLUMN,create_time" • update_time: "operation_type":"ADDITIONALCOLUMN,update_time" • Expression: "operation_type":"ADDITIONALCOLUMN,expression" • serverName@database@table: "operation_type":"ADDITIONALCOLUMN,server_database_table"

Parameter	Mandatory	Type	Description
value	No	String	Value of the additional column. Constraints: <ul style="list-style-type: none"> This parameter is mandatory only when operation type is set to Default or serverName@database@table. When operation type is set to Expression, this parameter has a fixed value of concat(_current_database, '@', _current_table).

Response Parameters

Status code: 202

Table 7-587 Response body parameters

Parameter	Type	Description
id	String	Query result ID.
job_id	String	Task ID.
status	String	Query status. Enumerated values: <ul style="list-style-type: none"> pending failed success

Status code: 400

Table 7-588 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12

Parameter	Type	Description
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Verifying data filtering rules

POST https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/job/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/data-filtering/check

```
{
  "data_process_info": [ {
    "filter_conditions": [ {
      "filtering_type": "contentConditionalFilter",
      "value": "id>1"
    } ],
    "db_object": {
      "object_info": {
        "dyh4": {
          "name": "dyh4",
          "all": false,
          "tables": {
            "test1_table1": {
              "name": "test1_table1",
              "type": "table",
              "all": true
            },
            "test1_table10": {
              "name": "test1_table10",
              "type": "table",
              "all": true
            },
            "test1_table11": {
              "name": "test1_table11",
              "type": "table",
              "all": true
            }
          }
        }
      }
    }
  } ],
  "object_scope": "table"
}
```

Example Response

Status code: 202

Accept

```
{
  "id": "0eacda0b-9422-4535-8b62-537d1833638b",
  "job_id": "177738d1-4eee-4fcb-a4e1-09aea79jb20i",
  "status": "pending"
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10000010",
  "error_msg" : "Job does not exist, please check job ID."
}
```

Status Code

Status Code	Description
202	Accept
400	Bad Request

Error Code

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

7.9.5 Obtaining the Data Filtering Verification Result

Function

This API is used to obtain the data filtering verification result.

URI

GET /v5/{project_id}/job/{job_id}/data-filtering/result

Table 7-589 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-590 Query parameters

Parameter	Mandatory	Type	Description
query_id	Yes	String	ID of the data filtering verification request

Request Parameters

Table 7-591 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. The token is the value of X-Subject-Token in the response header.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-592 Response body parameters

Parameter	Type	Description
success_count	Long	Number of data filtering rules that are successfully verified.
failed_count	Long	Number of data filtering rules that fail to be verified.
db_object_filtering_result	Array of objects	Verification result of the database table filtering rules. For details, see Table 7-593 .

Table 7-593 Data structure description of field **db_object_filtering_result**

Parameter	Type	Description
db_name	String	Database name.
schema_name	String	Schema name.
table_name	String	Table name.
is_success	Boolean	Data filtering verification result.
message	String	If is_success is set to false , a message is returned, indicating the verification failure cause.
source	String	Comparison source. <ul style="list-style-type: none"> • job: indicates the data filtering during synchronization. • compare: indicates the data filtering during comparison. Enumerated values: <ul style="list-style-type: none"> • job • compare
target_result	String	Indicates the result for verifying the comparison condition filtering on the destination database.
source_result	String	Indicates the result for verifying the comparison condition filtering on the source database.
target_message	String	Indicates the cause of the failure to verify the comparison condition filtering on the destination database.
source_message	String	Indicates the cause of the failure to verify the comparison condition filtering on the source database.

Status code: 400

Table 7-594 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12

Parameter	Type	Description
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Obtaining the data filtering verification result

```
GET https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/job/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/data-filtering/result?query_id=0eacda0b-9422-4535-8b62-537d1833638b
```

Example Response

Status code: 200

OK

```
{
  "db_object_filtering_result": [ {
    "db_name": "testDb",
    "schema_name": "testSchema",
    "table_name": "testTable",
    "is_success": true,
    "message": null
  }, {
    "db_name": "testDb",
    "schema_name": "testSchema",
    "table_name": "testTable",
    "is_success": false,
    "message": "DATA_TRANSFORMATION_ALREADY_EXISTED"
  } ],
  "success_count": 1,
  "failed_count": 1
}
```

Status code: 400

Bad Request

```
{
  "error_code": "DRS.1000010",
  "error_msg": "Job does not exist, please check job ID."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.9.6 Collecting Column Information About a Specified Database Table

Function

This API is used to collect the column information about a specified database table.

URI

POST /v5/{project_id}/job/{job_id}/columns/collect

Table 7-595 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Request Parameters

Table 7-596 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. The token is the value of X-Subject-Token in the response header.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-597 Request body parameters

Parameter	Mandatory	Type	Description
is_force_refresh	No	Boolean	Whether to obtain the latest column information from the Node.
db_object_infos	Yes	Array of objects	Information about a specified database table. For details, see Table 7-598 .

Table 7-598 Data structure description of field **db_object_infos**

Parameter	Mandatory	Type	Description
db_name	Yes	String	Database name.
schema_name	No	String	Schema name.
table_name	Yes	String	Table name.

Response Parameters

Status code: 202

Table 7-599 Response body parameters

Parameter	Type	Description
id	String	Query result ID.
job_id	String	Task ID.

Parameter	Type	Description
status	String	Query status. Enumerated values: <ul style="list-style-type: none"> ● pending ● failed ● success

Status code: 400

Table 7-600 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Collecting the column information about a specified database table

```
POST https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/job/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/columns/collect
```

```
{
  "is_force_refresh": false,
  "db_object_infos": [ {
    "db_name": "testDb",
    "schema_name": "testSchema",
    "table_name": "testTable"
  } ]
}
```

Example Response

Status code: 202

Accept

```
{
  "id": "0eacda0b-9422-4535-8b62-537d1833638b",
  "job_id": "177738d1-4eee-4fcb-a4e1-09aea79jb20i",
  "status": "pending"
}
```

Status code: 400

Bad Request

```
{  
  "error_code" : "DRS.10030016",  
  "error_msg" : "Query column info failed"  
}
```

Status Code

Status Code	Description
202	Accept
400	Bad Request

Error Code

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

7.9.7 Obtaining Column Information About a Specified Database Table

Function

This API is used to obtain the column information about a specified database table.

URI

GET /v5/{project_id}/job/{job_id}/columns

Table 7-601 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-602 Query parameters

Parameter	Mandatory	Type	Description
query_id	Yes	String	ID of the column information collection request for a specified database table, which is returned by the API for submitting the column information collection of a specified database table.
offset	No	Integer	Offset. The records after this offset will be queried.
limit	No	Integer	Maximum number of records that can be returned.

Request Parameters

Table 7-603 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. The token is the value of X-Subject-Token in the response header.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Response Parameters

Status code: 200

Table 7-604 Response body parameters

Parameter	Type	Description
results	Array of objects	Column information about a specified database table. For details, see Table 7-605 .
total_count	Integer	Total number of records in the list, which is irrelevant to pagination.

Table 7-605 Data structure description of field **results**

Parameter	Type	Description
db_name	String	Database name.
schema_name	String	Schema name.
table_name	String	Table name.
column_infos	Array of objects	Column information. For details, see Table 7-606 .
total_count	Integer	Total number of database column records, which is irrelevant to pagination and is used only as a return body parameter.

Table 7-606 Data structure description of field **column_infos**

Parameter	Type	Description
column_name	String	Column name.
column_type	String	Column type.
primary_key_or_unique_index	String	Primary key or unique index.
column_mapped_name	String	Mapped column name.
is_filtered	Boolean	Whether the column is filtered.
is_partition_key	Boolean	Whether the column is a partition column.

Status code: 400

Table 7-607 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

Obtaining the column information about a specified database table

```
GET https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/job/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/columns?query_id=0eacda0b-9422-4535-8b62-537d1833638b
```

Example Response

Status code: 200

OK

```
{
  "results": [ {
    "db_name": "testdb02",
    "table_name": "test5",
    "column_infos": [ {
      "column_name": "id",
      "column_type": "NUMBER",
      "primary_key_or_unique_index": "PRI",
      "column_mapped_name": null,
      "is_filtered": false,
      "is_partition_key": false
    }, {
      "column_name": "C1",
      "column_type": "VARCHAR2",
      "primary_key_or_unique_index": "",
      "column_mapped_name": null,
      "is_filtered": false,
      "is_partition_key": false
    }, {
      "column_name": "C2",
      "column_type": "VARCHAR2",
      "primary_key_or_unique_index": "",
      "column_mapped_name": null,
      "is_filtered": false,
      "is_partition_key": false
    }
  ]
}, {
  "total_count": 3
}],
  "total_count": 1
}
```

Status code: 400

Bad Request

```
{
  "error_code" : "DRS.10000010",
  "error_msg" : "Job does not exist, please check job ID."
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

7.10 Parameter Management

7.10.1 Updating Task Parameters

Function

This API is used to update task parameters.

Constraints

- This API is available only for real-time synchronization tasks from MySQL to MySQL, MySQL to PostgreSQL, MySQL to GaussDB Distributed, MySQL to GaussDB Primary/Standby, MySQL to GaussDB(DWS), MySQL to GaussDB(for MySQL), MySQL to Kafka, MySQL to CSS/ES, and MySQL to Oracle.
- This API is used for real-time synchronization tasks in the **Configuration**, **Full**, **Incremental**, **Full failed**, **Incremental failed**, or **Paused** state.

URI

PUT /v5/{project_id}/jobs/{job_id}/modify-configuration

Table 7-608 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Parameter	Mandatory	Type	Description
job_id	Yes	String	Task ID.

Request Parameters

Table 7-609 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-610 Request body parameters

Parameter	Mandatory	Type	Description
values	Yes	Array of objects	Parameter values initialized based on the default parameter template. For details, see Table 7-611 .

Table 7-611 Data structure description of field values

Parameter	Mandatory	Type	Description
parameter_name	Yes	String	Parameter name, for example, applier_thread_num and read_task_num . If this parameter is not specified, no parameter value is to be changed.
parameter_value	Yes	String	Value of a parameter, for example, 20 or false . If parameter_name is not empty, parameter_value cannot be empty, either.

Response Parameters

None

Example Request

Updating the number of threads for writing data to the destination database during the full migration phase and number of threads for reading data from the source database during the full migration phase

`https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/modify-configuration`

```
{
  "values": [ {
    "parameter_name": "applier_thread_num",
    "parameter_value": "20"
  }, {
    "parameter_name": "read_task_num",
    "parameter_value": "3"
  } ]
}
```

Example Response

Status code: 204

No Content

Status Code

Status Code	Description
204	No Content

Error Code

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

7.10.2 Querying Task Parameter Configuration List

Function

This API is used to query task parameter configuration list.

Constraints

- This API is available only for real-time synchronization tasks from MySQL to MySQL, MySQL to PostgreSQL, MySQL to GaussDB Distributed, MySQL to GaussDB Primary/Standby, MySQL to GaussDB(DWS), MySQL to GaussDB(for MySQL), MySQL to Kafka, MySQL to CSS/ES, and MySQL to Oracle.
- This API is used for real-time synchronization tasks in the **Configuration**, **Full**, **Incremental**, **Full failed**, **Incremental failed**, or **Paused** state.

URI

GET /v5/{project_id}/jobs/{job_id}/configurations

Table 7-612 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-613 Query parameters

Parameter	Mandatory	Type	Description
offset	No	String	Offset, which is the position where the query starts. The value must be greater than or equal to 0. The default value is 0 .
limit	No	String	Number of items displayed per page. The default value is 10 . The value ranges from 1 to 1000.
name	No	String	Query by parameter name.

Request Parameters

Table 7-614 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-615 Response body parameters

Parameter	Type	Description
count	Integer	Total number.
parameter_config_list	Array of objects	Task parameter list. For details, see Table 7-616 .

Table 7-616 Data structure description of field **parameter_config_list**

Parameter	Type	Description
name	String	Parameter name.
value	String	Parameter value.
default_value	String	Default parameter value.
value_range	String	Parameter value range. If the parameter type is Integer , the value is 0 or 1 . If the parameter type is Boolean , the value is true or false .
is_need_restart	Boolean	Whether a restart is required. The default value is true . The value false indicates that a restart is not required. The value true indicates that a restart is required.
description	String	Parameter description. Only the parameter description in English is supported.
created_at	String	Creation time, for example, 2023-01-20T07:18:26Z .
updated_at	String	Update time, for example, 2023-03-01T09:42:02Z .

Example Request

Querying task parameter configuration list

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/configurations?offset={offset}&limit={limit}
```

Example Response

Status code: 200

Task parameter configuration list

```
{
  "count" : 0,
  "parameter_config_list" : [ {
    "name" : "applier_thread_num",
    "value" : "20",
    "default_value" : "10",
    "value_range" : "1-512",
    "is_need_restart" : true,
    "description" : "The number of threads that write data to the target database during the full stage",
    "created_at" : "2020-09-01T18:50:20Z",
    "updated_at" : "2020-09-01T18:50:20Z"
  }, {
    "name" : "read_task_num",
    "value" : "20",
    "default_value" : "10",
    "value_range" : "1-512",
    "is_need_restart" : true,
    "description" : "The number of threads reading data from the source database during the full volume stage",
  }
  ]
}
```

```
"created_at" : "2020-09-01T18:50:20Z",
"updated_at" : "2020-09-01T18:50:20Z"
}]
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

7.10.3 Querying Task Parameter Change History

Function

This API is used to query the parameter change history of a task.

Constraints

- This API is available only for real-time synchronization tasks from MySQL to MySQL, MySQL to PostgreSQL, MySQL to GaussDB Distributed, MySQL to GaussDB Primary/Standby, MySQL to GaussDB(DWS), MySQL to GaussDB(for MySQL), MySQL to Kafka, MySQL to CSS/ES, and MySQL to Oracle.
- This API is used for real-time synchronization tasks in the **Configuration**, **Full**, **Incremental**, **Full failed**, **Incremental failed**, or **Paused** state.

URI

GET /v5/{project_id}/jobs/{job_id}/configuration-histories

Table 7-617 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset, which is the position where the query starts. The value must be greater than or equal to 0. The default value is 0 .
limit	No	Integer	Number of items displayed per page. The default value is 10 . The value ranges from 1 to 1000.
begin_time	No	String	Start time in UTC format, for example, 2020-09-01T18:50:20Z .
end_time	No	String	End time in UTC format, for example, 2020-09-01T19:50:20Z .
name	No	String	Parameter name.

Request Parameters

Table 7-618 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none">• en-us• zh-cn

Response Parameters

Status code: 200

Table 7-619 Response body parameters

Parameter	Type	Description
count	Integer	Total number of historical records.
parameter_history_config_list	Array of objects	Change history list of task parameters. For details, see Table 7-620 .

Table 7-620 Data structure description of field **parameter_history_config_list**

Parameter	Type	Description
name	String	Parameter name.
old_value	String	Old parameter value.
new_value	String	New parameter value.
is_update_success	Boolean	Update result. true : The operation is successful. false : The operation failed.
is_applied	Boolean	Whether the new value has been applied. true : The new value has been applied. false : The new value has not been applied.
update_time	String	Time when a parameter is changed.
apply_time	String	Time when the new value is applied.

Example Request

Querying the parameter change history of a task.

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/jobs/c7debc9c-8e09-4a5d-8dd6-cc44f78jb20r/configuration-histories?offset={offset}&limit={limit}&begin_time={begin_time}&end_time={end_time}
```

Example Response

Status code: 200

Task parameter change history list

```
{
  "count" : 0,
  "parameter_history_config_list" : [ {
    "name" : "strapplier_thread_numing",
    "old_value" : "10",
    "new_value" : "20",
    "is_update_success" : true,
    "is_applied" : "true",
    "update_time" : "2020-09-01T18:50:20Z",
    "apply_time" : "2020-09-01T18:50:20Z"
  } ]
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

7.11 Tag Management

7.11.1 Batch Adding or Deleting Tags

Function

This API is used to add or delete tags in batches.

URI

POST /v5/{project_id}/jobs/{resource_type}/{job_id}/tags/action

Table 7-621 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Parameter	Mandatory	Type	Description
resource_type	Yes	String	Resource type. <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery. • subscription: data subscription. • backupMigration: backup migration. • replay: simulation replay.
job_id	Yes	String	Task ID.

Request Parameters

Table 7-622 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-623 Request body parameters

Parameter	Mandatory	Type	Description
action	Yes	String	Specifies the operation ID. The value is case-sensitive and can be any of the following: <ul style="list-style-type: none"> • create: creation operation. • delete: deletion operation. Enumerated values: <ul style="list-style-type: none"> • create • delete
tags	Yes	Array of objects	Tag list. A maximum of 20 tags can be added. For details, see Table 7-624 .

Table 7-624 Data structure description of field **tags**

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key. <ul style="list-style-type: none"> • It must consist of 1 to 128 Unicode characters, • including letters, digits, spaces, and special characters <code>._:=-@</code>. However, it cannot start or end with a space, or start with <code>_sys_</code>. Minimum length: 1 Maximum length: 128
value	No	String	Tag value. This parameter is optional for deleting a tag. <ul style="list-style-type: none"> • Each tag value can contain a maximum of 255 Unicode characters. • The value can contain letters of any language, digits, spaces, and special characters <code>._:=-@</code> Maximum length: 255

Response Parameters

None

Example Request

- Adding tags in batches

```
https://{endpoint}/v5/246765b9f59445c3919fce121ea801f4/jobs/sync/ada96925-ceb7-4fa7-8b6f-a344f84jb201/tags/action
```

```
{  
  "action": "create",  
  "tags": [{  
    "key": "aaa",  
    "value": "bbb"  
  }, {  
    "key": "test",  
    "value": "test111"  
  }]  
}
```

- Deleting tags in batches

```
https://{endpoint}/v5/246765b9f59445c3919fce121ea801f4/jobs/sync/ada96925-ceb7-4fa7-8b6f-a344f84jb201/tags/action
```

```
{  
  "action": "delete",  
  "tags": [{  
    "key": "aaa",  
    "value": "bbb"  
  }, {  
    "key": "test",  
    "value": "test111"  
  }]  
}
```

Example Response

Status code: 204

No Content

Status Code

Status Code	Description
204	No Content

Error Code

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

7.11.2 Querying Tags of a Specified Project

Function

This API is used to query all tags of different tasks in a specified project.

URI

GET /v5/{project_id}/jobs/{resource_type}/tags

Table 7-625 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
resource_type	Yes	String	Resource type. <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery. • subscription: data subscription. • backupMigration: backup migration. • replay: simulation replay. Enumerated values: <ul style="list-style-type: none"> • migration • sync • cloudDataGuard • subscription • backupMigration • replay

Request Parameters

Table 7-626 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-627 Response body parameters

Parameter	Type	Description
tags	Array of objects	Tag list. For details, see Table 7-628 .

Table 7-628 Data structure description of field **tags**

Parameter	Type	Description
key	String	Tag key.
values	Array of strings	Tag value.

Example Request

Querying data subscription task tags

```
https://{endpoint}/v5/246765b9f59445c3919fce121ea801f4/jobs/subscription/tags
```

Example Response

Status code: 200

OK

```
{
  "tags": [ {
```

```
"key" : "aaa",  
"values" : [ "bbb" ]  
}]  
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

7.11.3 Querying Tags of a Task

Function

This API is used to query tags of a specified task.

URI

GET /v5/{project_id}/jobs/{resource_type}/{job_id}/tags

Table 7-629 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Parameter	Mandatory	Type	Description
resource_type	Yes	String	Resource type. <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery. • subscription: data subscription. • backupMigration: backup migration. • replay: simulation replay. Enumerated values: <ul style="list-style-type: none"> • migration • sync • cloudDataGuard • subscription • backupMigration • replay
job_id	Yes	String	Task ID.

Request Parameters

Table 7-630 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. After a request is processed, the value of X-Subject-Token in the header is the token value.

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-631 Response body parameters

Parameter	Type	Description
tags	Array of objects	Tag list. For details, see Table 7-632 .

Table 7-632 Data structure description of field **tags**

Parameter	Type	Description
key	String	Tag key. <ul style="list-style-type: none"> • It must consist of 1 to 128 Unicode characters, • including letters, digits, spaces, and special characters <code>_.:=+@</code>. However, it cannot start or end with a space, or start with <code>_sys_</code>. Minimum length: 1 Maximum length: 128
value	String	Tag value. This parameter is optional for deleting a tag. <ul style="list-style-type: none"> • Each tag value can contain a maximum of 255 Unicode characters. • The value can contain letters of any language, digits, spaces, and special characters <code>_.:=+@</code> Maximum length: 255

Example Request

Querying real-time synchronization task tags


```
https://{endpoint}/v5/246765b9f59445c3919fce121ea801f4/jobs/sync/e6842695-3ade-4937-827b-ff92776jb20a/tags
```

Example Response

Status code: 200

OK

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

Status Code

Status Code	Description
200	OK

Error Code

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

7.11.4 Adding Resource Tags in Batches

Function

This API is used to add resource tags in batches.

URI

POST /v5/{project_id}/{resource_type}/{resource_id}/tags/create

Table 7-633 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Parameter	Mandatory	Type	Description
resource_type	Yes	String	Resource type. <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery. • subscription: data subscription. • backupMigration: backup migration. • replay: traffic replay. Enumerated values: <ul style="list-style-type: none"> • migration • sync • cloudDataGuard • subscription • backupMigration • replay
resource_id	Yes	String	Resource ID, that is, the DRS task ID.

Request Parameters

Table 7-634 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-635 Request body parameters

Parameter	Mandatory	Type	Description
tags	Yes	Array of objects	Tag list. For details, see Table 7-636 .

Table 7-636 Data structure description of field **tags**

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key. <ul style="list-style-type: none"> • It must consist of 1 to 128 Unicode characters, • including letters, digits, spaces, and special characters <code>._:=-@</code>. However, it cannot start or end with a space, or start with <code>_sys_</code>. <p>Minimum length: 1 Maximum length: 128</p>

Parameter	Mandatory	Type	Description
value	No	String	Tag value. This parameter is optional for deleting a tag. <ul style="list-style-type: none">Each tag value can contain a maximum of 255 Unicode characters.The value can contain letters of any language, digits, spaces, and special characters <code>._:=-+@</code> Maximum length: 255

Response Parameters

None

Example Request

Adding resource tags in batches for a synchronization task

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/sync/2f4af282-d13e-4b10-  
a1eb-609b47fjb201/tags/create  
  
{  
  "tags": [ {  
    "key": "key1",  
    "value": "value1"  
  }, {  
    "key": "key2",  
    "value": "value2"  
  } ]  
}
```

Example Response

None

Status Code

Status Code	Description
204	No Content

Error Code

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

7.11.5 Deleting Resource Tags in Batches

Function

This API is used to batch delete tags from a specified instance.

URI

POST /v5/{project_id}/{resource_type}/{resource_id}/tags/delete

Table 7-637 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
resource_type	Yes	String	Resource type. <ul style="list-style-type: none">• migration: real-time migration.• sync: real-time synchronization.• cloudDataGuard: real-time disaster recovery.• subscription: data subscription.• backupMigration: backup migration.• replay: traffic replay. Enumerated values: <ul style="list-style-type: none">• migration• sync• cloudDataGuard• subscription• backupMigration• replay
resource_id	Yes	String	Resource ID, that is, the DRS task ID.

Request Parameters

Table 7-638 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-639 Request body parameters

Parameter	Mandatory	Type	Description
tags	Yes	Array of objects	Tag list. For details, see Table 7-640 .

Table 7-640 Data structure description of field **tags**

Parameter	Mandatory	Type	Description
key	Yes	String	<p>Tag key.</p> <ul style="list-style-type: none"> It must consist of 1 to 128 Unicode characters, including letters, digits, spaces, and special characters <code>_:=+@</code>. However, it cannot start or end with a space, or start with <code>_sys_</code>. <p>Minimum length: 1 Maximum length: 128</p>
value	No	String	<p>Tag value. This parameter is optional for deleting a tag.</p> <ul style="list-style-type: none"> Each tag value can contain a maximum of 255 Unicode characters. The value can contain letters of any language, digits, spaces, and special characters <code>_:=+@</code>. <p>Maximum length: 255</p>

Response Parameters

None

Example Request

Deleting tags in batches from a synchronization task

```

https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/sync/2f4af282-d13e-4b10-a1eb-609b47fjb201/
tags/delete

{
  "tags": [ {
    "key": "key1",
    "value": "value1"
  }, {
    "key": "key2",
    "value": "value2"
  } ]
}

```

Example Response

None

Status Code

Status Code	Description
204	No Content

Error Code

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

7.11.6 Querying the Resource Instance List

Function

This API is used to query the resource instance list.

URI

POST /v5/{project_id}/{resource_type}/resource-instances/filter

Table 7-641 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Parameter	Mandatory	Type	Description
resource_type	Yes	String	<p>Resource type.</p> <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery. • subscription: data subscription. • backupMigration: backup migration. • replay: traffic replay. <p>Enumerated values:</p> <ul style="list-style-type: none"> • migration • sync • cloudDataGuard • subscription • backupMigration • replay

Table 7-642 Query parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records to be queried, which ranges from 1 to 1000. The default value is 1000.
offset	No	Integer	Index position. If offset is set to N , the resource query starts from the $N+1$ piece of data. The value is 0 by default, indicating that the query starts from the first piece of data. The value cannot be a negative number.

Request Parameters

Table 7-643 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-644 Request body parameters

Parameter	Mandatory	Type	Description
without_any_tag	No	Boolean	If this parameter is set to true , all resources without tags are queried. In this case, the tags field is ignored. If this parameter is set to false or not specified, it does not take effect, which means that all resources are returned or resources are filtered by tags or matches .
tags	No	Array of objects	Included tags. A maximum of 20 keys are included. Each key can have a maximum of 20 values. For details, see Table 7-645 .

Parameter	Mandatory	Type	Description
matches	No	Array of objects	Search field. The tag key is the field to be matched, for example, resource_name . The tag value indicates the value to be matched. For details, see Table 7-646 .

Table 7-645 Data structure description of field **tags**

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key.
values	Yes	Array of strings	Tag value.

Table 7-646 Data structure description of field **matches**

Parameter	Mandatory	Type	Description
key	Yes	String	Key.
value	Yes	String	Value.

Response Parameters

Status code: 200

Table 7-647 Response body parameters

Parameter	Type	Description
total_count	Integer	Total number.
resources	Array of objects	Resource list. For details, see Table 7-648 .

Table 7-648 Data structure description of parameter **resources**

Parameter	Type	Description
resource_id	String	Resource ID.

Parameter	Type	Description
resource_detail	String	Resource details. The value is a resource object, used for extension. This parameter is left blank by default.
resource_name	String	Resource name.
tags	Array of objects	Tag list. For details, see Table 7-649 .

Table 7-649 Data structure description of field **tags**

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

Example Request

Querying the instance list of a synchronization task

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/sync/resource-instances/filter?
limit=1000&offset=0

{
  "tags": [ {
    "key": "key1",
    "values": [ "value1", "value2" ]
  }, {
    "key": "key2",
    "values": [ "value1", "value2" ]
  } ],
  "matches": [ {
    "key": "resource_name",
    "value": "resource1"
  } ],
  "without_any_tag": false
}
```

Example Response

Status code: 200

OK

```
{
  "resources": [ {
    "tags": [ {
      "key": "aaaaa",
      "value": "bbbbbb"
    }, {
      "key": "zzzz",
      "value": ""
    } ],
    "resource_id": "2f4af282-d13e-4b10-a1eb-609b47fjb201",
  } ],
}
```

```
"resource_detail": "",  
"resource_name": "DRS-5634"  
}],  
"total_count": 1  
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

7.11.7 Querying the Number of Resource Instances

Function

This API is used to query the number of resource instances.

URI

POST /v5/{project_id}/{resource_type}/resource-instances/count

Table 7-650 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Parameter	Mandatory	Type	Description
resource_type	Yes	String	<p>Resource type.</p> <ul style="list-style-type: none"> • migration: real-time migration. • sync: real-time synchronization. • cloudDataGuard: real-time disaster recovery. • subscription: data subscription. • backupMigration: backup migration. • replay: traffic replay. <p>Enumerated values:</p> <ul style="list-style-type: none"> • migration • sync • cloudDataGuard • subscription • backupMigration • replay

Request Parameters

Table 7-651 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	<p>MIME type of the request body. Use the default value application/json. For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json.</p>
X-Auth-Token	Yes	String	<p>User token obtained from IAM. It is a response to the API for obtaining a user token. After a request is processed, the value of X-Subject-Token in the header is the token value.</p>

Parameter	Mandatory	Type	Description
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Table 7-652 Request body parameters

Parameter	Mandatory	Type	Description
without_any_tag	No	Boolean	If this parameter is set to true , all resources without tags are queried. In this case, the tags field is ignored. If this parameter is set to false or not specified, it does not take effect, which means that all resources are returned or resources are filtered by tags or matches .
tags	No	Array of objects	Included tags. A maximum of 20 keys are included. Each key can have a maximum of 20 values. For details, see Table 7-653 .
matches	No	Array of objects	Search field. The tag key is the field to be matched, for example, resource_name . The tag value indicates the value to be matched. For details, see Table 7-654 .

Table 7-653 Data structure description of field **tags**

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key.
values	Yes	Array of strings	Tag value.

Table 7-654 Data structure description of field matches

Parameter	Mandatory	Type	Description
key	Yes	String	Key.
value	Yes	String	Value.

Response Parameters

Status code: 200

Table 7-655 Response body parameters

Parameter	Type	Description
total_count	Integer	Total number.

Example Request

Querying the number of synchronization task resource instances

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/sync/resource-instances/count
{
  "tags" : [ {
    "key" : "key1",
    "values" : [ "value1", "value2" ]
  }, {
    "key" : "key2",
    "values" : [ "value1", "value2" ]
  } ],
  "matches" : [ {
    "key" : "resource_name",
    "value" : "resource1"
  } ],
  "without_any_tag" : false
}
```

Example Response

Status code: 200

OK

```
{
  "total_count" : 1
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

7.11.8 Querying Tags of a Task

Function

This API is used to query tags of a specified task.

URI

GET /v5/{project_id}/{resource_type}/{resource_id}/tags

Table 7-656 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
resource_type	Yes	String	Resource type. <ul style="list-style-type: none">● migration: real-time migration.● sync: real-time synchronization.● cloudDataGuard: real-time disaster recovery.● subscription: data subscription.● backupMigration: backup migration.● replay: traffic replay. Enumerated values: <ul style="list-style-type: none">● migration● sync● cloudDataGuard● subscription● backupMigration● replay
resource_id	Yes	String	Resource ID, that is, the DRS task ID.

Request Parameters

Table 7-657 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-658 Response body parameters

Parameter	Type	Description
tags	Array of objects	Tag list. For details, see Table 7-659 .

Table 7-659 Data structure description of field **tags**

Parameter	Type	Description
key	String	<p>Tag key.</p> <ul style="list-style-type: none"> It must consist of 1 to 128 Unicode characters, including letters, digits, spaces, and special characters <code>_:=+@</code>. However, it cannot start or end with a space, or start with <code>_sys_</code>. <p>Minimum length: 1 Maximum length: 128</p>
value	String	<p>Tag value. This parameter is optional for deleting a tag.</p> <ul style="list-style-type: none"> Each tag value can contain a maximum of 255 Unicode characters. The value can contain letters of any language, digits, spaces, and special characters <code>_:=+@</code> <p>Maximum length: 255</p>

Example Request

Querying tags of a real-time synchronization task

```
https://{endpoint}/v5/246765b9f59445c3919fce121ea801f4/jobs/sync/e6842695-3ade-4937-827b-ff92776jb20a/tags
```

Example Response

Status code: 200

OK

```
{
  "tags": [ {
    "key": "key1",
    "value": "value1"
  }, {
    "key": "key2",
    "value": "value3"
  } ]
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

7.11.9 Querying Tags of a Specified Project

Function

This API is used to query the tags of all resources owned by a tenant in a specified project.

URI

GET /v5/{project_id}/{resource_type}/tags

Table 7-660 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
resource_type	Yes	String	Resource type. <ul style="list-style-type: none">● migration: real-time migration.● sync: real-time synchronization.● cloudDataGuard: real-time disaster recovery.● subscription: data subscription.● backupMigration: backup migration.● replay: traffic replay. Enumerated values: <ul style="list-style-type: none">● migration● sync● cloudDataGuard● subscription● backupMigration● replay

Request Parameters

Table 7-661 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-662 Response body parameters

Parameter	Type	Description
tags	Array of objects	Tag list. For details, see Table 7-663 .

Table 7-663 Data structure description of field **tags**

Parameter	Type	Description
key	String	Tag key.
values	Array of strings	Tag value.

Example Request

Querying all tags of a real-time synchronization task

```
https://{endpoint}/v5/246765b9f59445c3919fce121ea801f4/sync/tags
```

Example Response

Status code: 200

OK

```
{
  "tags": [ {
    "key": "key1",
    "values": [ "value1", "value2" ]
  }, {
    "key": "key2",
    "values": [ "value1", "value2" ]
  } ]
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

7.12 Permissions Management

7.12.1 Querying the Permissions of an Agency

Function

This API is used to obtain the permissions required by the agency based on the source database type, destination database type, and whether the database is self-managed.

URI

GET /v5/{project_id}/agency/permissions

Table 7-664 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .

Table 7-665 Query parameters

Parameter	Mandatory	Type	Description
source_type	No	String	Source database type. <ul style="list-style-type: none">• mysql: MySQL• sqlserver: Microsoft SQL Server• postgresql: PostgreSQL• mongodb: MongoDB and DDS• dws: GaussDB(DWS)• oracle: Oracle• taurus: GaussDB(for MySQL)• ddm: DDM• kafka: Kafka• gaussdbv5: GaussDB Distributed• gaussdbv5ha: GaussDB Primary/Standby• gaussmongodb: GeminiDB Mongo• elasticsearch: CSS/ES• db2: Db2• tidb: TiDB• redis: Redis• rediscluster: Cluster Redis• gaussredis: GeminiDB Redis• mariadb: MariaDB• informix: Informix• dynamo: Dynamo

Parameter	Mandatory	Type	Description
target_type	No	String	Destination database type. <ul style="list-style-type: none"> • mysql: MySQL • sqlserver: Microsoft SQL Server • postgresql: PostgreSQL • mongodb: MongoDB and DDS • dws: GaussDB(DWS) • oracle: Oracle • taurus: GaussDB(for MySQL) • ddm: DDM • kafka: Kafka • gaussdbv5: GaussDB Distributed • gaussdbv5ha: GaussDB Primary/Standby • gaussmongodb: GeminiDB Mongo • elasticsearch: CSS/ES • db2: Db2 • tidb: TiDB • redis: Redis • rediscluster: Cluster Redis • gaussredis: GeminiDB Redis • mariadb: MariaDB • informix: Informix • dynamo: Dynamo
is_non_dbs	Yes	Boolean	Indicates whether the database is self-managed.

Request Parameters

Table 7-666 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-667 Response body parameters

Parameter	Type	Description
common_permissions	Array of strings	<ul style="list-style-type: none"> • DRS FullAccess: All permissions for DRS.

Parameter	Type	Description
engine_permissions	Array of strings	<ul style="list-style-type: none"> • GaussDB ReadOnlyAccess: Read-only permissions for GaussDB. • GeminiDB ReadOnlyAccess: Read-only permissions for GeminiDB. • GaussDBforMySQLReadOnlyAccess: Read-only permissions for GaussDB(for MySQL). • DWS ReadOnlyAccess: Read-only permissions for GaussDB(DWS). • DDM ReadOnlyAccess: Read-only permissions for Distributed Database Middleware (DDM). • DDS ReadOnlyPolicy: Read-only permissions for Document Database Service (DDS). • RDS ReadOnlyAccess: Read-only permissions for Relational Database Service (RDS). • MRS ReadOnlyAccess: Read-only permissions for MapReduce Service (MRS), including permissions for querying clusters and read-only permissions for ECS, BMS, EVS, and VPC.

Example Request

Obtaining the permissions required by the agency based on the source database type, destination database type, and whether the database is self-managed

```
https://{endpoint}/v5/054ba152d480d55b2f5dc0069e7ddef0/agency/permissions?source_type=mysql&target_type=taurus&non_dbs=false
```

Example Response

Status code: 200

```
{
  "common_permissions": [
    "DRS FullAccess",
  ],
  "engine_permissions": [
    "RDS ReadOnlyAccess",
    "GaussDBforMySQLReadOnlyAccess"
  ]
}
```

Status Code

Status Code	Description
200	OK

Error Code

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

7.13 Workload Replay

7.13.1 Querying the Workload Replay Result

Function

This API is used to obtain workload replay results, including time-based replay statistics, abnormal SQL details and statistics, and slow SQL details and statistics.

URI

GET /v5/{project_id}/jobs/{job_id}/replay-results

Table 7-668 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. For details, see Obtaining a Project ID .
job_id	Yes	String	Task ID.

Table 7-669 Query parameters

Parameter	Mandatory	Type	Description
type	Yes	String	<p>Result type. The value can be:</p> <ul style="list-style-type: none"> • shard_statistics: time-based replay overview statistics. • slow_sql: slow SQL details. • error_sql: abnormal SQL details. • slow_sql_template: slow SQL statistics. • error_sql_template: abnormal SQL statistics. • replaying_sql: Details about the SQL that is being replayed. <p>Enumerated values:</p> <ul style="list-style-type: none"> • shard_statistics • slow_sql • error_sql • slow_sql_template • error_sql_template • replaying_sql
start_time	No	String	Start time of data query. This parameter is mandatory when type is set to shard_statistics , slow_sql , or error_sql .
end_time	No	String	End time of data query. This parameter is mandatory when type is set to shard_statistics , slow_sql , or error_sql .
offset	No	Long	Start offset in data pagination. This parameter is mandatory when type is set to slow_sql , error_sql , slow_sql_template , or error_sql_template .
limit	No	Long	Number of data records on the current page in data pagination. This parameter is mandatory when type is set to slow_sql , error_sql , slow_sql_template , or error_sql_template .

Parameter	Mandatory	Type	Description
sort_key	No	String	The keyword based on which the returned results are sorted. slow_sql_template supports keywords count , maxLatency , and avgLatency , and error_sql_template supports keyword count .
sort_dir	No	String	Sorting type. <ul style="list-style-type: none"> • asc: The query results are displayed in ascending order. • desc: The query results are displayed in the descending order. Default value: desc Enumerated values: <ul style="list-style-type: none"> • asc • desc
target_name	No	String	Name of the replay database, which is used to filter the replay results of the destination database and source database mirror in the consistency replay policy scenario. This parameter is optional. If this parameter is not specified, all data is queried by default. The value can be: <ul style="list-style-type: none"> • target: Queries the replay result of the destination database. • target_mirror: Queries the replay result of the source database mirror. Enumerated values: <ul style="list-style-type: none"> • target • target_mirror

Request Parameters

Table 7-670 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type of the request body. Use the default value application/json . For APIs used to upload objects or images, the value varies depending on the flow type. The default value is application/json .
X-Auth-Token	Yes	String	User token obtained from IAM. It is a response to the API for obtaining a user token. After a request is processed, the value of X-Subject-Token in the header is the token value.
X-Language	No	String	Request language type. Default value: en-us Enumerated values: <ul style="list-style-type: none"> • en-us • zh-cn

Response Parameters

Status code: 200

Table 7-671 Response body parameters

Parameter	Type	Description
total_count	Long	Total number of records.
shard_stats	Array of objects	List of time-based replay statistics. This parameter is returned when type is set to shard_statistics . For details, see Table 7-672 .
slow_sqls	Array of objects	List of slow SQL statements. This parameter is returned when type is set to slow_sql . For details, see Table 7-673 .

Parameter	Type	Description
slow_sql_templates	Array of objects	List of slow SQL statistics. This parameter is returned when type is set to slow_sql_template . For details, see Table 7-674 .
error_sqls	Array of objects	List of abnormal SQL statements. This parameter is returned when type is set to error_sql . For details, see Table 7-675 .
error_sql_templates	Array of objects	List of abnormal SQL statistics. This parameter is returned when type is set to error_sql_template . For details, see Table 7-676 .
replaying_sqls	Array of objects	List of SQL statements that are being replayed. This parameter is returned when type is set to replaying_sql . For details, see Table 7-677 .

Table 7-672 Data structure description of field **shard_statics**

Parameter	Type	Description
time	String	Time point for replay.
total	Long	Total SQLs.
finish	Long	Executed SQLs.
abnormal	Long	Abnormal SQLs.
slow	Long	Slow SQLs.

Table 7-673 Data structure description of field **slow_sqls**

Parameter	Type	Description
object_type	String	SQL type.
slow_sql	String	SQL statement.
old_time	String	Execution duration on the source database.
replay_time	String	Execution duration on the destination database.

Table 7-674 Data structure description of field **slow_sql_templates**

Parameter	Type	Description
sql_template	String	SQL template.
target_name	String	Destination database name.
schema_name	String	Schema name.
query_type	String	SQL type.
min_latency	Long	Minimum SQL execution duration.
max_latency	Long	Maximum SQL execution duration.
avg_latency	Long	Average SQL execution duration.
total_latency	Long	Total SQL execution duration.
target_type	String	Destination database type.
count	Long	Number of SQLs.

Table 7-675 Data structure description of field **error_sqls**

Parameter	Type	Description
object_type	String	SQL type.
abnormal_sql	String	SQL statement.
abnormal_info	String	Exception cause description.

Table 7-676 Data structure description of field **error_sql_templates**

Parameter	Type	Description
sql_template	String	SQL template.
target_name	String	Destination database name.
schema_name	String	Schema name.
query_type	String	SQL type.
target_type	String	Destination database type.
count	Long	Number of classified SQL statements.

Table 7-677 Data structure description of field **replaying_sqls**

Parameter	Type	Description
schema_name	String	Database or schema name.
sql_statement	String	SQL statement.
latency	Integer	Original execution duration.
execute_latency	Integer	Replay execution duration.
status	String	Execution status.
client	String	Client IP address.
connection_id	String	Connection ID.
replay_start_time	String	Replay start time.

Status code: 400

Table 7-678 Response body parameters

Parameter	Type	Description
error_code	String	Error code. Minimum length: 12 Maximum length: 12
error_msg	String	Error message. Minimum length: 1 Maximum length: 512

Example Request

- Querying time-based replay overview statistics within a specified time range
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/7b35723d-1525-410e-90c3-70f9ed3jb601/replay-results?type=shard_statistics&start_time=1700421943000&end_time=1700439961000
- Querying details about slow SQL statements replayed in a specified time range in data pagination
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/7b35723d-1525-410e-90c3-70f9ed3jb601/replay-results?type=slow_sql&start_time=1700421943&end_time=1700439961&offset=1&limit=10
- Querying statistics of slow SQL statements in data pagination
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/7b35723d-1525-410e-90c3-70f9ed3jb601/replay-results?type=slow_sql_template&offset=1&limit=10
- Querying details about abnormal SQL statements replayed in a specified time range in data pagination

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/  
7b35723d-1525-410e-90c3-70f9ed3jb601/replay-results?  
type=error_sql&start_time=1700421943&end_time=1700439961&offset=1&limit=10
```

- Querying statistics of abnormal SQL statements in data pagination

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/  
7b35723d-1525-410e-90c3-70f9ed3jb601/replay-results?type=error_sql_template&offset=1&limit=10
```
- Querying details about the SQL statement that is being replayed

```
https://{endpoint}/v5/5237e10fe9aa4ad5b16b6a5245248314/jobs/  
7b35723d-1525-410e-90c3-70f9ed3jb601/replay-results?type=replaying_sql
```

Example Response

Status code: 200

OK

```
{  
  "total_count": 100,  
  "shard_statics": null,  
  "slow_sqls": null,  
  "slow_sql_templates": null,  
  "error_sqls": null,  
  "error_sql_templates": null,  
  "replaying_sqls": [  
    {  
      "schema_name": "db",  
      "sql_statement": "select * from preple where id = 1",  
      "latency": 0,  
      "execute_latency": 0,  
      "status": "running",  
      "replay_start_time": "2024-04-23T12:07:53Z"  
    },  
    {  
      "schema_name": "db",  
      "sql_statement": "select * from preple where id = 1",  
      "latency": 0,  
      "execute_latency": 1,  
      "status": "running",  
      "replay_start_time": "2024-04-23T12:07:53Z"  
    }  
  ]  
}
```

Status code: 400

Bad Request

```
{  
  "error_code": "DRS.10020000",  
  "error_msg": "Incorrect parameter type."  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

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

8 Application Examples

8.1 Scenario 1: Querying Task Statuses in Batches

Scenarios

This section describes how to query the status of all tasks of a tenant by calling the API described in [Querying Task Statuses in Batches](#).

Procedure

- Step 1** Call an IAM API to obtain a user token by referring to [Authentication](#).
- Step 2** Obtain the ID of the task to be queried by referring to [Obtaining a Task ID](#).
- Step 3** URI format: `/v3/{project_id}/jobs/batch-status`

- Example request:

POST: `https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-status`

Obtain the endpoint from Regions and Endpoints.

- Request example:

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-status
```

```
{
  "jobs": [ "9a470239-2308-4bb5-a6bc-1040402fjb21", "dc67695a-ee3e-49b8-a022-a099bd81jb21" ],
  "page_req": {
    "cur_page": 1,
    "per_page": 10
  }
}
```

- Example Response:

```
{
  "results": [ {
    "id": "9a470239-2308-4bb5-a6bc-1040402fjb21",
    "status": "INCRE_TRANSFER_STARTED"
  }, {
    "id": "dc67695a-ee3e-49b8-a022-a099bd81jb21",
    "status": "INCRE_TRANSFER_FAILED"
  }
],
}
```

```
"count" : 2  
}
```

----End

8.2 Scenario 2: Querying Task Details in Batches

Scenarios

This section describes how to query task details of a tenant by calling the API described in [Querying Task Details in Batches](#).

Procedure

- Step 1** Call an IAM API to obtain a user token by referring to [Authentication](#).
- Step 2** Obtain the ID of the task to be queried by referring to [Obtaining a Task ID](#).
- Step 3** URI format: `/v3/{project_id}/jobs/batch-detail`

- Example request:

```
POST: https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/  
batch-detail
```

Obtain the endpoint from Regions and Endpoints.

- Request example:

```
https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-detail
```

```
{  
  "jobs" : [ "24834eb6-be30-464e-a299-f7aa730jb101", "140b5236-88ad-43c8-811c-1268453jb101" ],  
  "page_req" : {  
    "cur_page" : 1,  
    "per_page" : 10  
  }  
}
```

- Example Response:

```
{  
  "count" : 2,  
  "results" : [ {  
    "id" : "24834eb6-be30-464e-a299-f7aa730jb101",  
    "name" : "DRS-3999-lws",  
    "status" : "STARTJOBING",  
    "description" : "",  
    "create_time" : "1608519469412",  
    "task_type" : "FULL_INCR_TRANS",  
    "source_endpoint" : {  
      "ip" : "172.22.74.56",  
      "region" : "cn-xianhz-1",  
      "db_type" : "mysql",  
      "db_port" : 3306,  
      "ssl_link" : false,  
      "project_id" : "054ba152d480d55b2f5dc0069e7ddef0",  
      "db_user" : "root"  
    },  
    "target_endpoint" : {  
      "ip" : "172.21.176.219",  
      "region" : "cn-xianhz-1",  
      "db_type" : "mysql",  
      "db_port" : 3306,  
      "ssl_link" : false,  
      "inst_id" : "3ef57dbcc8db478a9e346d26ef2575bfin01",  
      "project_id" : "054ba152d480d55b2f5dc0069e7ddef0",  
    }  
  }  
}
```

```
"inst_name" : "rds-lws-target",
"db_user" : "root",
"vpc_id" : "0ff8df7b-f0e9-4b16-ac16-1db3dadb69e4",
"subnet_id" : "f857d371-2f03-4622-85f6-2b7d42d0d82c"
},
"inst_info" : {
  "ip" : "172.16.213.101",
  "inst_type" : "high",
  "engine_type" : "mysql",
  "volume_size" : 100,
  "public_ip" : "10.154.219.202",
  "start_time" : "0"
},
"actual_start_time" : "1608520069393",
"update_time" : "1608520068979",
"job_direction" : "up",
"db_use_type" : "migration",
"need_restart" : false,
"is_target_readonly" : true,
"speed_limit" : [ ],
"schema_type" : "Tungsten",
"object_switch" : true,
"replace_definer" : true,
"migrate_user" : false,
"az_code" : "az2xahz",
"vpc_id" : "0ff8df7b-f0e9-4b16-ac16-1db3dadb69e4",
"subnet_id" : "f857d371-2f03-4622-85f6-2b7d42d0d82c",
"security_group_id" : "d90c971b-4b9d-402c-9c59-5c239389b8dd",
"support_ip_v6" : false,
"original_job_direction" : "up"
"object_infos" : [{
  "id" : "test",
  "type" : "database",
  "name" : "test",
  "select" : "true"
}, {
  "id" : "test-*.table01",
  "type" : "table",
  "name" : "table01",
  "select" : "true",
  "parent_id" : "test"
}]
}, {
  "id" : "140b5236-88ad-43c8-811c-1268453jb101",
  "name" : "DRS-0042-linxiaolu",
  "status" : "CONFIGURATION",
  "description" : "",
  "create_time" : "1608366204171",
  "task_type" : "FULL_INCR_TRANS",
  "source_endpoint" : {
    "ip" : "192.168.0.27",
    "region" : "cn-xianhz-1",
    "db_type" : "mysql",
    "db_port" : 3306,
    "ssl_link" : false,
    "project_id" : "054ba152d480d55b2f5dc0069e7ddef0",
    "db_user" : "root"
  },
  "target_endpoint" : {
    "ip" : "192.168.0.131",
    "region" : "cn-xianhz-1",
    "db_type" : "mysql",
    "db_port" : 3306,
    "ssl_link" : false,
    "inst_id" : "e05a3679efe241d8b5dee80b17c1a863in01",
    "project_id" : "054ba152d480d55b2f5dc0069e7ddef0",
    "inst_name" : "rds-1417-lxl",
    "db_user" : "root",
    "vpc_id" : "65f0391c-0582-44a6-aa50-248f97ed82e1",
```

```
"subnet_id" : "352ad828-3467-4f03-987a-c55a5a9dd417"
},
"inst_info" : {
  "ip" : "192.168.0.229",
  "status" : "ACTIVE",
  "inst_type" : "high",
  "engine_type" : "mysql",
  "volume_size" : 100,
  "public_ip" : "10.154.219.72",
  "start_time" : "0"
},
"actual_start_time" : "1608369232412",
"full_transfer_complete_time" : "1608369510202",
"update_time" : "1608517066434",
"job_direction" : "up",
"db_use_type" : "migration",
"need_restart" : false,
"is_target_readonly" : true,
"speed_limit" : [ ],
"schema_type" : "Tungsten",
"object_switch" : false,
"replace_definer" : true,
"migrate_user" : false,
"tags": [{
  "key1" : "value1",
  "key2" : "value2"
}],
"az_code" : "az2xahz",
"vpc_id" : "65f0391c-0582-44a6-aa50-248f97ed82e1",
"subnet_id" : "352ad828-3467-4f03-987a-c55a5a9dd417",
"security_group_id" : "d90c971b-4b9d-402c-9c59-5c239389b8dd",
"support_ip_v6" : false,
"original_job_direction": "up"
"object_infos": [{
  "id": "test2",
  "type": "database",
  "name": "test2",
  "select": "true",
  }, {
  "id": "test2-**-table02",
  "type": "table",
  "name": "table02",
  "select": "true",
  "parent_id": "test2"
  }
}],
"data_transformation": {
  "total_count": 2,
  "filter_conditions": [
    {
      "data_transformation_object_infos": [
        {
          "id": "test02-**-table02-**-conditionFilter--",
          "db_name": "test02",
          "table_name": "table02",
          "data_transformation_type": "contentConditionalFilter"
        }
      ],
      "transformation_info": {
        "value": "id1<1",
        "transformation_type": "contentConditionalFilter"
      }
    },
    {
      "data_transformation_object_infos": [
        {
          "id": "test02-**-table01-**-configConditionFilter--",
          "db_name": "test02",
          "table_name": "test01",
```

```
        "data_transformation_type": "configConditionalFilter"
      }
    ],
    "transformation_info": {
      "value": "config",
      "transformation_type": "configConditionalFilter"
    },
    "config_transformation": {
      "indexes": "id",
      "values": "id <= 6",
      "db_table_name": "test02.table01",
      "db_name": "test02",
      "table_name": "table01",
      "col_names": "id",
      "prim_key_or_index": "id"
    }
  }
}
]
```

----End

8.3 Scenario 3: Starting Tasks in Batches

Scenarios

This section describes how to **start multiple configuration tasks** by calling an API.

Procedure

- Step 1** Call an IAM API to obtain a user token by referring to [Authentication](#).
- Step 2** Obtain the ID of the task to be queried by referring to [Obtaining a Task ID](#).
- Step 3** URI format: `/v3/{project_id}/jobs/batch-starting`
 - Example request:
POST: `https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-starting`
Obtain the endpoint from Regions and Endpoints.
 - Request example:
`https://{endpoint}/v3/054ba152d480d55b2f5dc0069e7ddef0/jobs/batch-starting`

```
{
  "jobs": [ {
    "job_id": "140b5236-88ad-43c8-811c-1268453jb101"
  } ]
}
```
 - Example Response:

```
{
  "count": 1,
  "results": [ {
    "id": "140b5236-88ad-43c8-811c-1268453jb101",
    "status": "success"
  } ]
}
```



```
}]  
}
```

----End

9 Permissions Policies and Supported Actions

9.1 Permissions Policies and Supported Actions

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

A policy is a set of permissions defined in JSON format. By default, new IAM users do not have any permissions. You need to add a user to one or more groups and assign permission policies to these groups. The user then inherits permissions from the groups it is a member of. This process is called authorization. After authorization, the user can perform specified operations on Anti-DDoS based on the permissions. For details about the syntax structure and example of a policy, see "Permissions Management" in the *Data Replication Service*.

There are fine-grained policies and role-based access control (RBAC) policies. An RBAC policy consists of permissions for an entire service. Users in a group with such a policy assigned are granted all of the permissions required for that service. A fine-grained policy consists of API-based permissions for operations on specific resource types. Fine-grained policies, as the name suggests, allow for more fine-grained control than RBAC policies.

NOTE

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

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

Supported Actions

Operations supported by a fine-grained policy are specific to APIs. The following describes the headers of the actions provided in this section:

- Permissions: defined by actions in a custom policy.
- APIs: REST APIs that can be called in a custom policy.
- Action: Specific operations that are allowed or denied.
- Related actions: Actions on which a specific action depends to take effect. When assigning permissions for the action to a user, you also need to assign permissions for the dependent actions.
- IAM projects or enterprise projects: Type of projects in which policies can be used to grant permissions. A policy can be applied to IAM projects, enterprise projects, or both. Policies that contain actions for both IAM and enterprise projects can be used and take effect for both IAM and Enterprise Management. Policies that only contain actions for IAM projects can be used and only take effect for IAM. For details about the differences between IAM and enterprise projects, see [Differences Between IAM and Enterprise Management](#).

9.2 DRS Actions

NOTE

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

Table 9-1 Service function

Permission	API	Action	IAM Project	Enterprise Project
Creating tasks in batches	POST /v3/{project_id}/jobs/batch-creation	drs:migrationJobs:create (To create an instance, you need to configure the RDS ReadOnlyAccess, VPC FullAccess, and SMN FullAccess permissions in the project.)	√	√
Stopping and deleting tasks in batches	DELETE /v3/{project_id}/jobs/batch-jobs	drs:migrationJobs:delete (To stop or delete an instance, you need to configure the RDS ReadOnlyAccess, VPC FullAccess, and SMN FullAccess permissions in the project.)	√	√

Permission	API	Action	IAM Project	Enterprise Project
Testing connections in batches	POST /v3/{project_id}/jobs/batch-connection	drs:migrationJobs:connect (To test the connection, you need to configure the VPC FullAccess permission in the project.)	√	√
Querying objects selected in batches	PUT /v3/{project_id}/jobs/batch-select-objects	drs:migrationJobs:select (To obtain object selection information, you need to configure the RDS FullAccess and DAS FullAccess permissions in the project.)	√	√
Querying RPO and RTO information in batches	POST /v3/{project_id}/jobs/batch-rpo-and-rto	drs:dataGuardJob:list	√	√
Performing primary/standby switchovers in batches	POST /v3/{project_id}/jobs/batch-switchover	drs:disasterRecoveryJob:switchover	√	√
Testing connections in batches (cluster mode)	POST /v3/{project_id}/jobs/cluster/batch-connection	drs:migrationJobs:connect (To test the connection, you need to configure the VPC FullAccess permission in the project.)	√	√
Performing a batch pre-check	POST /v3/{project_id}/jobs/batch-precheck	drs:migrationJob:action	√	√
Querying pre-check results in batches	POST /v3/{project_id}/jobs/batch-precheck-result	drs:migrationJob:get	√	√

Permission	API	Action	IAM Project	Enterprise Project
Setting flow control for tasks	PUT /v3/{project_id}/jobs/batch-limit-speed	drs:migrationJobs:update	√	√
Obtaining database parameters in batches	POST /v3/{project_id}/jobs/batch-get-params	drs:databaseParameters:get	√	√
Resuming or retrying tasks in batches	POST /v3/{project_id}/jobs/batch-retry-task	drs:migrationJob:action	√	√
Pausing tasks in batches	POST /v3/{project_id}/jobs/batch-starting	drs:migrationJob:action	√	√
Modifying tasks in batches	PUT /v3/{project_id}/jobs/batch-modification	drs:migrationJob:modify	√	√
Changing the passwords of the source and destination databases in batches	PUT /v3/{project_id}/jobs/batch-modify-pwd	drs:migrationJobs:update	√	√
Setting definers in batches	POST /v3/{project_id}/jobs/batch-replace-definer	drs:migrationJob:updateJobConfig	√	√
Creating comparison tasks in batches	POST /v3/{project_id}/jobs/batch-create-compar	drs:migrationCompareJob:create	√	√
Querying comparison results in batches	POST /v3/{project_id}/jobs/batch-compare-result	drs:CompareJob:getResult	√	√
Querying task progress in batches	POST /v3/{project_id}/jobs/batch-progress	drs:migrationJobs:getProgress	√	√

Permission	API	Action	IAM Project	Enterprise Project
Querying tasks of a tenant	POST /v3/{project_id}/jobs	DRS ReadOnlyAccess	√	√
Querying DR monitoring data	POST /v3/{project_id}/jobs/disaster-recovery-monitoring-data	drs:disasterRecoveryJob:get	√	√
Querying the DR initialization progress in batches	POST /v3/{project_id}/jobs/batch-struct-process	drs:disasterRecoveryJob:get	√	√
Querying DR initialization object details in batches	POST /v3/{project_id}/jobs/{type}/batch-struct-detail	drs:disasterRecoveryJob:get	√	√
Updating migrated user information in batches	PUT /v3/{project_id}/jobs/batch-update-user	drs:migrationJob:modifyUserInfo	√	√
Modifying database parameters	POST /v1.0/{projectId}/jobs/{jobId}/params	drs:dataBaseParams:modify (Configure the RDS ReadOnlyAccess, VPC FullAccess, SMN FullAccess and DAS FullAccess permissions.)	√	√
Processing data in batches	POST /v3/{project_id}/jobs/batch-transformation	drs:migrationJob:action	√	√
Starting tasks in batches	POST /v3/{project_id}/jobs/batch-starting	drs:migrationJob:action	√	√
Querying task details in batches	POST /v3/{project_id}/jobs/batch-detail	drs:migrationJob:get	√	√
Querying task statuses in batches	POST /v3/{project_id}/jobs/batch-status	drs:migrationJob:get	√	√

A Appendix

A.1 Abnormal Request Results

- Abnormal response description

Table A-1 Abnormal response description

Name	Type	Description
error_code	String	Specifies the error code returned when the API response is abnormal. For details, see section Error Code .
error_msg	String	Specifies the description of the error returned when the API response is abnormal.

- Example Response:

```
{  
  "error_code": "DRS.M00201",  
  "error_msg": "The %s parameter is empty."  
}  
{  
  "error_code": "DRS.M00202",  
  "error_msg": "The value of %s is invalid."  
}
```

A.2 HTTP Status Codes for General Requests

- Normal

Table A-2 Return codes for successful requests

Status Code	Description
200	Request succeeded.
202	Asynchronous requests (such as performing a task) are submitted successfully.

- Abnormal

Table A-3 Return codes for failed requests

Status Code	Description
400 Bad Request	The server fails to process the request.
401 Unauthorized	You must enter the username and password to access the requested page.
403 Forbidden	You are forbidden to access the page requested.
404 Not Found	The server could not find the requested page.
405 Method Not Allowed	The method specified in the request is not allowed.
409 Conflict	The request cannot be processed due to conflicts.
413 Request Entity Too Large	The request exceeds the resource quota.
415 Unsupported Media Type	Content-Type contained in the request header is not application/json .
422 Unprocessable Entity	Parameter or object in the request cannot be identified.
500 Internal Server Error	Failed to complete the request. The server is abnormal.
501 Not Implemented	Failed to complete the request. The server does not support the requested function.
503 Service Unavailable	Failed to complete the request. The system is currently unavailable.

A.3 Error Code

If an error occurs during API calling, no results will be returned. You can locate the error cause based on error codes of each API. If an error occurs, an HTTP status

code is returned. The returned message body contains a specific error code and error message.

If an error code starting with **APIGW** is returned after you call an API, rectify the fault by referring to [Error Codes](#).

Table A-4 Error codes of v3 APIs

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
422	DRS.M0 0002	The returned result is empty.	The returned result is empty.	Check the request parameters or task status.
422	DRS.M0 0004	Service is abnormal. Check logs.	Service is abnormal. Check logs.	If the service is abnormal, contact technical support.
400	DRS.M0 0007	Invalid request parameter.	Invalid request parameter.	Check the request parameters.
403	DRS.M0 0100	Invalid token.	Failed to pass IAM authentication.	Check the user token information.
404	DRS.M0 0101	The user role is empty.	The user role is empty.	Check the role information of the user.
403	DRS.M0 0102	You do not have sufficient permissions.	Insufficient permissions.	Check the DRS permissions of the current user.
401	DRS.M0 0103	You do not have operation permissions. Check account permissions on IAM.	Operation denied. Check your account permissions on IAM.	Check the DRS permissions of the current user.
400	DRS.M0 0105	User restricted.	User restricted.	Check the DRS permissions of the current user.
400	DRS.M0 0200	Parameter error.	Invalid parameters.	Check the request parameters.
400	DRS.M0 0201	The parameter %s is empty.	The parameter %s is empty.	Check the request parameters.
400	DRS.M0 0202	The value of parameter %s is invalid.	The value of parameter %s is invalid.	Check the request parameters.
400	DRS.M0 0210	The value of Page is invalid, %s	Invalid page value, %s.	Check the request page parameters.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
400	DRS.M0 0211	The value of Page exceeds the upper limit.	The number of pages exceeds the upper limit.	Check the request page parameters.
403	DRS.M0 0261	Invalid project ID.	Invalid project ID.	Check the value of project ID in the request.
400	DRS.M0 0269	The tag key must be unique.	The tag key cannot be duplicated.	Check whether the tag key is unique.
400	DRS.M0 0270	The tag key or value is too long.	The tag key or value exceeds the maximum length allowed.	Check the length of the tag key or value in the request.
400	DRS.M0 0271	The number of tags exceeds the limit.	The maximum number of tags has been reached.	Check the number of tags in the request.
400	DRS.M0 0273	Invalid parameter. The parameter contains %s.	Invalid parameter. %s exists in the parameter.	Check the request parameters.
422	DRS.M0 0277	The task name already exists.	The task name already exists.	Change the task name.
400	DRS.M0 0298	Job does not exist, please check job id.	The job does not exist. Check the job ID.	Check the request parameters.
400	DRS.M0 0299	Only one jobId is allowed.	Only one job ID can be transferred.	Check the request parameters.
400	DRS.M0 0300	Invalid request, %s	Invalid request. %s.	Check the request parameters.
400	DRS.M0 0301	There are duplicate %s in request.	The request contains duplicate task IDs.	Check the request parameters.
400	DRS.M0 0302	The transfer schema is invalid, please refer to supported transfer schema.	Invalid migration scheme.	Check the request parameters.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
400	DRS.M0 0303	The corresponding parameter is not obtained from the cache.	Failed to obtain corresponding parameters from the cache.	Check the request parameters.
400	DRS.M0 0304	This API cannot be called in the current task status.	API cannot be invoked in current state of the task.	Check the current task status.
400	DRS.M0 0305	Parameter error:%s	Parameter error: %s.	Check the request parameters.
400	DRS.M0 0306	Start time cannot be the same as end time.	The start time cannot be the same as the end time.	Check the request parameters.
400	DRS.M0 0307	Only subtasks can invoke this interface.	Only subtasks can use this API.	Change the task ID.
400	DRS.M0 0308	Only parent tasks can invoke this interface.	Only parent tasks can use this API.	Change the task ID.
400	DRS.M0 0401	%s is not support re-editing of synchronization tasks.	%s does not support re-editing synchronization tasks.	Change the task ID.
400	DRS.M0 0402	The subtask already exists.	The subtask already exists.	Change the task ID.
400	DRS.M0 0403	This task does not support flow control.	This task does not support flow control.	Change the task ID.
422	DRS.M0 0414	The value for Logical Copy Slot Advance Interval must be between 1 and 999.	The interval for advancing the logical replication slot must range from 1 to 999.	Change the interval for advancing the logical replication slot.
422	DRS.M0 1501	Service error.	The server is abnormal.	If the service is abnormal, contact technical support.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
202	DRS.M0 1504	Another operation is being performed on the migration task or the migration task is abnormal.	Other operations are being performed on the migration task or the migration task is faulty. Try again later.	Check the current task status.
400	DRS.M0 5003	Task information not found.	Task information cannot be queried.	Check the task ID in the request.
400	DRS.M0 5004	The task has been deleted or the resource has been released.	The task has been deleted or resources have been released.	Check the current task status.
422	DRS.M0 5006	Invalid RDS DB instance.	Invalid RDS DB instance.	Check the RDS instance ID in the request.
200	DRS.M0 5066	Failed to create instance!	Failed to create an instance.	Contact technical support.
400	DRS.M0 6007	The DB instance cannot be left blank.	The DB instance is null or "".	Check the RDS instance ID in the request.
422	DRS.M0 6011	Failed to obtain RDS information.	Obtain RDS DB instance information failed.	Check the RDS instance ID in the request.
422	DRS.M0 6020	The destination DB instance has been set to read/write by the migration task %s and cannot be used.	The destination DB instance cannot be used because it has been set to read/write by the migration task %s.	Check the RDS instance ID in the request.
422	DRS.M0 6021	The destination DB instance has been set to read/write by the synchronization task %s and cannot be used.	The destination DB instance cannot be used because it has been set to read/write by the synchronization task %s.	Check the RDS instance ID in the request.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
400	DRS.MO 7000	Data processing rule already exists.	Data processing rule already exists.	Modify the data processing rule in the request.
200	DRS.KE0 001	Failed to connect to the database network.	Database connection failed.	Check the network configuration between the database and the replication instance.
200	DRS.KE0 002	The username or password is incorrect.	The username or password is incorrect.	Check the username and password.
200	DRS.KE0 003	The port cannot be accessed.	The port cannot be accessed.	Check the database port.
200	DRS.KE0 004	Connection failed.Handling suggestion: Please check the security group/firewall/SSL configuration of the database.	Connection failed.	Check the security group, firewall, and SSL configuration of the database.
200	DRS.KE0 005	The database user must allow remote connections.Handl ing suggestion: Run CREATE USER 'Account'@'%' IDENTIFIED BY 'Password' to create a user that allows remote connections. After the migration, delete this user.	The database user must allow remote connections.	Run CREATE USER'Account'@'% ' IDENTIFIED BY 'Password' to create a user that allows remote connections. After the migration is complete, delete the user.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
200	DRS.KE0006	The remote connection permission is not configured in pg_hba.conf for the replication instance and database user. Handling suggestion: Add \"host all ***(dbuser) 0.0.0.0/0 password\" to the pg_hba.conf configuration file to grant the remote connection permission to the user and restart the database. After the migration is complete, delete this record and restart the database again.	The remote connection permission is not configured in pg_hba.conf for the replication instance and database user.	Add \" host all ***(dbuser) 0.0.0.0/0 password \" to the pg_hba.conf configuration file to grant the remote connection permission to the user, and restart the database. After the migration is complete, delete this record and restart the database again.
200	DRS.KE0007	The database user does not have the login permission. Handling suggestion: Run alter role ***(dbuser) login to grant the login permission.	The database user does not have the login permission.	Run alter role ***(dbuser) login to grant the login permission.
200	DRS.KE0008	The specified source database does not exist. Handling suggestion: Create a database or enter an existing database name.	The specified source database was not found.	Create a database or enter an existing database name.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
200	DRS.KE0009	The SSL CA certificate does not exist.Handling suggestion: Contact technical support.	The SSL CA certificate was not found.	Contact technical support.
200	DRS.KE0010	SSL is not enabled or the certificate is invalid. Handling suggestion: Enable SSL or upload a valid SSL CA certificate.	SSL is disabled or the certificate is invalid.	Enable SSL or upload a valid SSL CA certificate.
200	DRS.KE0011	The source database does not have the Microsoft SQL Server replication component installed.	The source database does not have the Microsoft SQL Server replication component installed.	Install the Microsoft SQL Server replication component.
200	DRS.KE0012	The user does not have the permission to access the database.	The user does not have the permission to access the database.	Grant the permission to access the database to the user.
200	DRS.KE0013	Insufficient permissions.	Insufficient permissions.	Grant the permission to access the database to the user.
200	DRS.KE0014	Internal error.	Internal error.	Contact technical support.
200	DRS.KE0015	The network connection between the replication instance and database is faulty.	The network connection between the replication instance and the database is faulty.	Contact technical support.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
200	DRS.KE0 016	Failed to connect to the database. In the postgresql.conf file, the listen_addresses parameter value or port number is incorrect. Handling suggestion: In postgres.conf, set listen_addresses to * or change the port number to the correct value. Then, restart the database for the modification to take effect.	Failed to connect to the database. In the postgresql.conf file, the listen_addresses parameter value or port number is incorrect.	In postgres.conf , set listen_addresses to * or change the port number to the correct value. Then, restart the database to apply the change.
200	DRS.KE0 017	The IP address cannot be pinged. Handling suggestion: See migration preparations in the DRS Best Practices.	The IP address cannot be pinged.	See migration preparations in the <i>DRS Best Practices</i> .
200	DRS.KE0 018	Failed to resolve the domain name.	Failed to resolve the domain name.	See migration preparations in the <i>DRS Best Practices</i> .
200	DRS.KE0 019	Failure cause: The subnets of any of the source, destination, or replication (synchronization or disaster recovery) instances in different VPCs overlap.	The subnet CIDR blocks of any of the source, destination, or replication (synchronization or disaster recovery) instances in different VPCs overlap.	See migration preparations in the <i>DRS Best Practices</i> .
200	DRS.KE0 020	Incorrect replica set name.	The replica set name is incorrect.	Contact technical support.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
200	DRS.KE0 021	The source database cannot connect to the port of the replication instance.Handling suggestion: Modify the firewall and security group configurations of the source and destination databases to enable the source database to connect to the port of the replication instance. See migration preparations in the DRS Best Practices.	The source database cannot connect to the port of the replication instance.	Modify the firewall and security group configurations of the source and destination databases to enable the source database to connect to the port of the replication instance. See migration preparations in the <i>DRS Best Practices</i> .
200	DRS.KE0 022	The SSL certificate is incorrect.Handling suggestion: Upload a correct SSL certificate.	The SSL certificate is incorrect.	Upload a correct SSL certificate.
200	DRS.KE0 023	The DRS EIP is not in the whitelist of the source database.Handling suggestion: Add the DRS EIP to the whitelist of the source database.	The EIP of the DRS instance is not added to the whitelist of the source database.	Add the EIP of the DRS instance to the whitelist of the source database.
200	DRS.KE0 030	The service name is incorrect.Handling suggestion: Check whether the service name is correct before the connection test.	The database service name is incorrect.	Check whether the database service name specified in the connection test is correct.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
200	DRS.KE0 031	Query failed.Handling suggestion: Check whether the migration account has sufficient permissions.	Query failed.	Check whether the migration account has sufficient permissions.
200	DRS.KE0 032	The Oracle certificate is incorrect.Handling suggestion: Upload a correct Oracle certificate.	The Oracle certificate is incorrect.	Upload a correct Oracle certificate.
200	DRS.KE0 033	The username, password, or authentication database of the source database is incorrect.Handling suggestion: Check that the input username, password, and authentication database for the connection test are correct.	The username, password, or authentication database of the source database is incorrect.	Check whether the username, password, and authentication database entered for the connection test are correct.
200	DRS.KE0 034	The username, password, or authentication database of the destination database is incorrect.Handling suggestion: Check that the input username, password, and authentication database for the connection test are correct.	The username, password, or authentication database of the destination database is incorrect.	Check whether the username, password, and authentication database entered for the connection test are correct.
200	DRS.KE0 035	The database middleware is not a MySQL sharding middleware.	The database middleware is not a MySQL sharding middleware.	Contact technical support.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
200	DRS.KE0 036	SSL must be enabled when the database password plugin caching_sha2_password is verified.Handling suggestion: Enable SSL or create a user.	SSL must be enabled when the database password plugin cache_sha2_password is verified.	Enable SSL or create a user.
200	DRS.KE0 037	The username or password is incorrect.Handling suggestion: Check that the input username and password for the connection test are correct.	The username or password is incorrect.	Check whether the username and password for the connection test are correct.
200	DRS.KE0 038	The account is locked.Handling suggestion: Contact technical support to unlock the account.	The account is locked.	Contact technical support to unlock the account.
200	DRS.KE0 039	The database cannot be connected because the client IP address is not in the whitelist.Handling suggestion: Use an account with the ALTER SYSTEM permission and execute the following SQL statement: alter system add hba entry (hostssl [Username] [Subnet of the RDS instance]);	The database cannot be connected because the client IP address is not in the whitelist.	Use an account with the ALTER SYSTEM permission to run the following SQL statement: alter system add hba entry (hostssl [username] [subnet CIDR block where RDS is located]).

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
200	DRS.KE0 040	The kafka brokers is not available.	The Kafka node is unavailable.	Contact technical support.
200	DRS.KE0 041	The kafka is not available.	Kafka is unavailable.	Contact technical support.
200	DRS.KE0 042	The kafka topic is not existed.	The Kafka topic does not exist.	Contact technical support.
200	DRS.KE0 043	The user does not have the permission to create connections.Grant the required permission to the user and try again.	The user does not have the permission to create connections..	Grant the required permissions to the user and try again.
200	DRS.KE0 044	The parameters for test connection contains non-ascii character. Handling suggestion: Please check test connection parameters, use user info without NON-ASCII characters to test connection.	The parameters for testing the connection contain non-ASCII characters.	Check the connection test parameters and use the user information without non-ASCII characters to test the connection.
200	DRS.KE0 045	The user account is locked.	The user account is locked.	Contact technical support.
200	DRS.KE0 046	The IP address that the user requested to establish a connection is not monitored by the database.	The IP address used by the user to request to set up a connection is not monitored by the database.	Contact technical support.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
200	DRS.KE0 047	The queue name is not exist.Handling suggestion: Check that the input queue name for the connection test are correct.	The queue name does not exist.	Check whether the name of the queue entered for the connection test is correct.
200	DRS.KE0 048	Failed to connect to the database.	Failed to connect to the database.	Contact technical support.
200	DRS.KE0 049	Database user privilege is not enough.	The database user does not have sufficient permissions.	Contact technical support.
200	DRS.KE0 050	The PDB database is not open.	Failed to open the PDB database.	Open the PDB database.
200	DRS.KE0 051	The PDB database does not exist.	The PDB database does not exist.	Contact technical support.
200	DRS.KE0 052	Versions earlier than Oracle 12c do not support PDB.	Versions earlier than Oracle 12c do not support PDB.	Contact technical support.
200	DRS.KE0 053	Entered Oracle user has insufficient permissions.	The entered Oracle user does not have sufficient permissions.	Contact technical support.
200	DRS.KE0 054	Agent Connection Failed.Handling suggestion: Please check whether the logical replication agent is enabled or IP address and port number of the logical replication agent is correct.	Failed to connect to the agent.	Check whether the logical replication agent is enabled or whether the IP address and port number of the logical replication agent are correct.
200	DRS.KE0 055	Password has expired.Handling suggestion: Please reset the password.	The password has expired.	Reset the password.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
200	DRS.KE0 056	The current instance does not support connections on multiple IP addresses during synchronization. Possible cause: The current instance is connected to a node through multiple IP addresses, which can cause a task to fail. Handling suggestion: Select a stable node, enter the single IP address of the node, and try to connect to the instance again.	Data synchronization does not allow the instance to be connected using multiple IP addresses.	Select a stable node, enter the single IP address of the node, and try to connect to the instance again.
200	DRS.KE0 057	The Kafka user name or password is incorrect.	The Kafka username or password is incorrect.	Check the username and password.
200	DRS.KE0 058	The Kafka encryption certificate or certificate password is incorrect.	The Kafka encryption certificate or certificate password is incorrect.	Check the username, password, or certificate.
200	DRS.KE0 059	The connected DB engine does not match the DB engine supported by the task.	The connected DB engine does not match the DB engine supported by the task.	Contact technical support.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
200	DRS.KE0060	Test connection is succeeded.Handling suggestion: The Oracle database is a RAC cluster. You are advised to use the SCAN IP address as the connection. For details, see here.	The connection test is successful.	The Oracle database is a RAC cluster. You are advised to use the SCAN IP address for the connection.
200	DRS.KE0061	Possible reasons are:1. The node status is abnormal.2. The primary node information is not specified.3. The whitelist of pg_hba.conf is not configured.4.The network is abnormal.	Failed to test the connection. The possible causes are as follows: 1. The node is abnormal. 2. The primary node information is not specified. 3. The pg_hba.conf whitelist is not configured. 4. The network is abnormal.	Contact technical support.
200	DRS.KE0062	The archived space is full, need to release.	The archive space is full and resources need to be released.	Clear the archive space.
200	DRS.KE0063	The database query result is empty. The database does not have a table or does not have the SELECT permission on the table.	The database query result is empty because the database has no tables or you do not have the SELECT permissions on the tables.	Contact technical support.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
200	DRS.KE0 064	The account password has expired.Handling suggestion: Changing the Expired Status of a User to OPEN.Refer to the modification statement: UPDATE SYS.USER \$ SET ASTATUS = 0 WHERE NAME = 'user_name'.	The account password has expired.	Change the expiration status of the user to OPEN . For details, see the following statement: UPDATE SYS.USER\$ SET ASTATUS = 0 WHERE NAME = 'user_name'
200	DRS.KE0 065	Database access denied. Handling suggestion: 1.Check whether the database name is correct before the connection test. 2.Check whether the DB2 database listening port number is correct. 3.Check whether the DB2 server is stopped. 4.Check whether the Firewall is stopped.	Access to the database is denied.	1. Check whether the database name is correct before the connection test. 2. Check whether the listening port number of the DB2 database is correct. 3. Check whether the DB2 server is stopped. 4. Check whether the firewall is disabled.
200	DRS.KE0 066	The number of DRS task shards must be the same as the actual number of GaussDB shard nodes.	The number of DRS task shards must be the same as the actual number of GaussDB shard nodes.	Contact technical support.
200	DRS.KE0 067	Cannot open user default database.	Failed to open the default database of the account.	Contact technical support.
200	DRS.KE0 068	The GTID format is incorrect.	The GTID format is incorrect.	Contact technical support.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
200	DRS.KE0069	The specified point is unavailable, the specified point must be between the task start point and the current point.	The specified point is unavailable. The specified point must be between the task start point and the current point.	Contact technical support.
200	DRS.KE0070	Connection failed.Handling suggestion: Please check the security group/firewall/SSL configuration/pg_hba.conf whitelist of the database.	Connection failed.	Check the security group, firewall, SSL configuration, and pg_hba.conf whitelist of the database.

Table A-5 Error codes of v5 APIs

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
400	DRS.10000001	Failed	Failed to process the request.	Contact technical support.
400	DRS.10020000	Parameter error:%s	Parameter error: %s.	Check the request parameters.
400	DRS.10020001	Parameter %s is null	The parameter %s is empty.	Check the request parameters.
400	DRS.10020002	The value of parameter %s is invalid.	The parameter %s has an invalid value.	Check the request parameters.
400	DRS.10000010	The task does not exist. Check the task ID.	The task does not exist. Check the task ID.	Check the task ID.
400	DRS.10000011	The database is abnormal.	A database error occurred.	Contact technical support.
400	DRS.10000012	The start time cannot be the same as the end time.	The start time cannot be the same as the end time.	Change the time in the request.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
400	DRS.100 10000	The start time cannot be the same as the end time.	The start time cannot be the same as the end time.	Change the time in the request.
400	DRS.100 10002	Async job param checking, Please wait param check complete and resubmit.	The parameters of the task created asynchronously are being verified. Submit the task after the parameter verification is complete.	Submit the task after the parameter verification is complete.
400	DRS.100 10004	Submit job failed.	Failed to submit the task.	Contact technical support.
400	DRS.100 10006	Create job failed.	Failed to create the task.	Contact technical support.
400	DRS.100 10007	Test connection failed.	Failed to test the connection.	Contact technical support.
400	DRS.100 10009	Set policy config failed,%s	Failed to set the task policy, %s.	Check the task policy.
400	DRS.100 10010	Set progressing data failed,%s	Failed to set data processing rules, %s.	Check the data processing rules.
400	DRS.100 10011	Set user migration data failed,%s	Failed to set user migration, %s.	Check the user migration settings.
400	DRS.100 10012	Precheck failed,%s	Pre-check failed, %s.	Contact technical support.
400	DRS.100 10013	Database param modify success, please restart the database.	Parameters of the DB instance are modified. Restart the database.	Restart the database.
400	DRS.100 10014	Start job failed,%s	Failed to start the task, %s.	Contact technical support.
400	DRS.100 10016	%s is an EPS system tag and cannot be added manually.	%s is an EPS system tag and cannot be manually added.	Check the tag parameter.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
400	DRS.100 10024	Param check failed,%s	Parameter verification failed, %s.	Check the parameter.
400	DRS.100 10025	The current API does not support this %s engine type now.	The current APIs do not support this type of engine.	Modify the request parameters.
400	DRS.100 10026	Reset job failed,%s.	Failed to reset the task, %s.	Contact technical support.
400	DRS.100 10027	Restart job failed,%s.	Failed to retry the task, %s.	Contact technical support.
400	DRS.100 10028	Pause job failed,%s.	Failed to pause the task, %s.	Contact technical support.
400	DRS.100 10029	Teminate job failed,%s.	Failed to stop the task, %s.	Contact technical support.
400	DRS.100 10030	Delete job failed,%s.	Failed to delete the task, %s.	Contact technical support.
400	DRS.100 10031	Test connection timeout.	Connection testing timed out.	Contact technical support.
400	DRS.100 10032	Failed to create the comparison task,%s.	Failed to create the comparison task, %s.	Contact technical support.
400	DRS.100 10033	Query progress failed,%s.	Failed to query the task progress, %s.	Contact technical support.
400	DRS.100 20072	Invalid projectId.	Invalid project ID.	Check the project ID.
400	DRS.100 20077	Duplicate task name.	Duplicate task name.	Check the task name.
400	DRS.100 30000	Excel content is empty.	The Excel file to be uploaded is empty.	Check the Excel file.
400	DRS.100 30001	Excel file size is too large, exceeds the threshold %s.	The size of the Excel file to be uploaded exceeds the threshold %s.	Check the size of the Excel file.

Statu s Code	Error Codes	Error Message	Description	Troubleshooting
400	DRS.100 30002	Excel has more than one sheet.	The Excel file to be uploaded contains more than one sheet.	Check the number of files in the Excel.
400	DRS.100 30003	The object name is invalid.	The object name is invalid.	Check the object name.
400	DRS.100 30004	Support the file name extension can be ZIP, JSON, TXT, or Excel 2007 or later (with the file name extension .xlsx/.xls).	Files in the format of ZIP, JSON, TXT, and Excel 2007 or later (with the file name extension .xlsx or .xls) can be imported.	Check the format of the Excel file.
400	DRS.100 30005	Export excel fail.	Failed to export the Excel file.	Contact technical support.
400	DRS.100 30006	The file name format is %s.	The file name can contain only %s.	Check the file name.
400	DRS.100 30007	The supported file format is .xls or .xlsx. Please check.	The file format must be .xls or .xlsx .	Check the file format.
400	DRS.100 30008	Failed to download the file.	Failed to download the file.	Contact technical support.
400	DRS.100 30009	Failed to export data, because %s.	Failed to export data due to %s.	Contact technical support.
400	DRS.100 30010	The information of imported database is empty. Please check.	The database information is empty.	Check the imported file.
400	DRS.100 30011	The number of selection database exceeds the limit of 5000.	More than 5000 databases are selected.	Check the imported file.
400	DRS.100 30012	Failed to import the Excel file.	Failed to import the Excel file.	Contact technical support.
400	DRS.100 20111	The length exceeds %s.	The length exceeds %s.	Check the parameter length.

Status Code	Error Codes	Error Message	Description	Troubleshooting
400	DRS.100 60015	Task is waiting for running.	The task is waiting for running.	Check the parameter length.

A.4 Task Statuses

Table A-6 Task Statuses

Status	Description
CREATING	The schema is being created.
CREATE_FAILED	Creation failed
CONFIGURATION	Configuring
STARTJOBING	Starting
WAITING_FOR_START	The task is being started.
START_JOB_FAILED	Failed to start one or more tasks.
PAUSING	The task is being paused.
FULL_TRANSFER_STARTED	Full migration is in progress, and the DR scenario is initialized.
FULL_TRANSFER_FAILED	Full migration failed. Initialization failed in the DR scenario.
FULL_TRANSFER_COMPLETE	Full migration is complete, and the initialization is complete in the DR scenario.
INCRE_TRANSFER_STARTED	Incremental migration is being performed, and the DR task is in progress.
INCRE_TRANSFER_FAILED	Incremental migration fails and a DR exception occurs.
RELEASE_RESOURCE_STARTED	Completing
RELEASE_RESOURCE_FAILED	Stopping task failed
RELEASE_RESOURCE_COMPLETE	Completed
CHANGE_JOB_STARTED	The task is being modified.
CHANGE_JOB_FAILED	Modifying task failed

Status	Description
CHILD_TRANSFER_STARTING	The subtask is being started.
CHILD_TRANSFER_STARTED	The subtask is being migrated.
CHILD_TRANSFER_COMPLETE	The subtask migration is complete.
CHILD_TRANSFER_FAILED	Failed to migrate the subtask.
RELEASE_CHILD_TRANSFER_STARTED	The subtask is being completed.
RELEASE_CHILD_TRANSFER_COMPLETE	The subtask is complete.

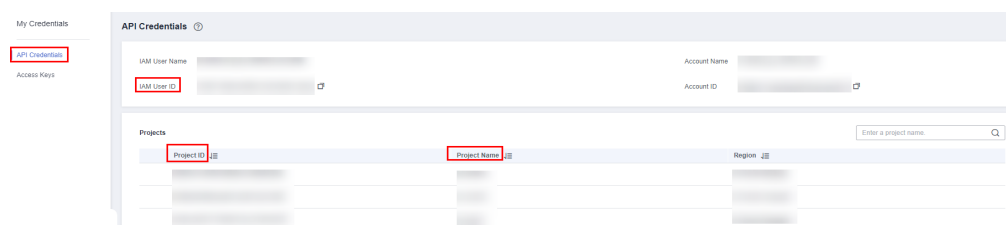
A.5 Obtaining a Project ID

Obtaining a Project ID from the Console

A project ID needs to be specified in the URLs of some APIs. Therefore, you need to obtain a project ID before calling such APIs. To do so, perform the following operations:

- Step 1** Sign up and log in to the management console.
- Step 2** Click the username and choose **My Credentials** from the drop-down list.
- Step 3** On the **API Credentials** page, view the project ID in the project list.

Figure A-1 Obtaining the Project ID



If there are multiple projects in one region, expand **Region** and view subproject IDs in the **Project ID** column.

----End

Obtaining the Project ID by Calling an API

You can also 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/**, where *{endpoint}* indicates the IAM endpoint. You can obtain the IAM endpoint from [Regions and Endpoints](#). For details about API authentication, see [Authentication](#).

The following is an example response. The value of **id** is the project ID.

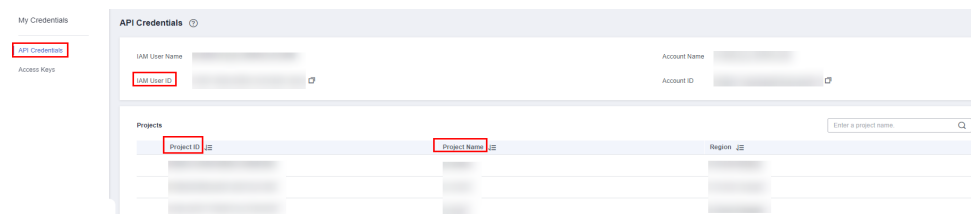
```
{
  "projects": [
    {
      "domain_id": "65382450e8f64ac0870cd180d14e684b",
      "is_domain": false,
      "parent_id": "65382450e8f64ac0870cd180d14e684b",
      "name": "cn-xianhz-1",
      "description": "",
      "links": {
        "next": null,
        "previous": null,
        "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"
      },
      "id": "a4a5d4098fb4474fa22cd05f897d6b99",
      "enabled": true
    }
  ],
  "links": {
    "next": null,
    "previous": null,
    "self": "https://www.example.com/v3/projects"
  }
}
```

A.6 Obtaining an Account ID

An account ID is required for some URLs when an API is called. To obtain an account ID, perform the following operations:

- Step 1** Sign up and log in to the management console.
- Step 2** Click the username and choose **My Credentials** from the drop-down list.
On the **API Credentials** page, view **Account ID**.

Figure A-2 Obtaining the account ID



----End

A.7 Obtaining a Task ID

A task ID is required for some URLs when an API is called. This section describes how to obtain a task ID.

Obtaining a Task ID from the Console

- Step 1** You have logged in to the DRS management console.
- Step 2** In the task list, view the task ID.

Alternatively, click the task name and view the task ID on the **Basic Information** tab.

Figure A-3 Basic information

Basic Information			
Task Name	Auto_DRS_MySQL	Task ID	da806624-13ed-4f51-95a7
Task Created	May 08, 2021 10:29:08 GMT+08:00	Description	..
Scheduled Start Time	--	Started	May 08, 2021 11:03:21 GMT+08:00
Enterprise Project			

----End

Obtaining a Task ID Through an API

You can also obtain the task ID by calling the API in [Creating Tasks in Batches](#).

The following is an example response after a task is successfully created. In the response, **id** indicates the task ID.

```
{
  "results": [ {
    "id": "e11eaf8f-71ef-4fad-8890-aed7572ajb11",
    "name": "DRS-9228",
    "status": "CREATING",
    "create_time": "1599188556112"
  } ],
  "count": 1
}
```

A.8 Engine Types

For details about the value of each engine type, see [Engine Types](#).

Table A-7 Engine type description

Engine Type (engine_type)	Description	Source Database Value (db_type)	Destination Database Value (db_type)
mysql	Used for data migration and data synchronization from MySQL to MySQL.	mysql	mysql
mongodb	Used for data migration from MongoDB to DDS.	mongodb	mongodb
redis-to-gaussredis	Used for data migration from Redis to GeminiDB Redis.	redis	gaussredis
rediscluster-to-gaussredis	Used for data migration from cluster Redis to GeminiDB Redis.	rediscluster	gaussredis

Engine Type (engine_type)	Description	Source Database Value (db_type)	Destination Database Value (db_type)
cloudDataGuard-mysql	Used for disaster recovery from MySQL to MySQL.	mysql	mysql
gaussdbv5	Used for data synchronization from GaussDB Distributed to GaussDB Distributed.	gaussdbv5	gaussdbv5
mysql-to-kafka	Used from data synchronization from MySQL to Kafka.	mysql	kafka
taurus-to-kafka	Used from data synchronization from GaussDB(for MySQL) to Kafka.	taurus	kafka
gaussdbv5ha-to-kafka	Used from data synchronization from GaussDB Primary/Standby to Kafka.	gaussdbv5ha	kafka
postgresql	Used from data synchronization from PostgreSQL to PostgreSQL.	postgresql	postgresql
oracle-to-gaussdbv5	Used for data synchronization from Oracle to GaussDB Distributed.	oracle	gaussdbv5

A.9 Status Code

[Table A-8](#) describes status codes.

Table A-8 Status code

Status Code	Code	Description
100	Continue	The client should continue with its request. This interim response is used to inform the client that the initial part of the request has been received and has not yet been rejected by the server.

Status Code	Code	Description
101	Switching Protocols	The protocol should be switched. The protocol can only be switched to a more advanced protocol. For example, the current HTTP protocol is switched to a later version.
200	OK	Request succeeded.
201	Created	The request for creating a resource or task has been fulfilled.
202	Accepted	The request has been accepted, but the processing has not been completed.
203	Non-Authoritative Information	Unauthorized information. The request is successful.
204	NoContent	The server has successfully processed the request, but has not returned any content. The status code is returned in response to an HTTP OPTIONS request.
205	Reset Content	The server has fulfilled the request, but the requester is required to reset the content.
206	Partial Content	The server has processed certain GET requests.
300	Multiple Choices	There are multiple options for the location of the requested resource. The response contains a list of resource characteristics and addresses from which the user or user agent (such as a browser) can choose the most appropriate one.
301	Moved Permanently	The requested resource has been assigned a new permanent URI, and the new URI is contained in the response.
302	Found	The requested resource was temporarily moved.
303	See Other	Retrieve a location. The response to the request can be found under a different URI and should be retrieved using a GET or POST method.
304	Not Modified	The requested resource has not been modified. In such a case, there is no need to retransmit the resource since the client still has a previously-downloaded copy.
305	Use Proxy	The requested resource must be accessed through a proxy.

Status Code	Code	Description
306	Unused	The HTTP status code is no longer used.
400	BadRequest	Invalid request. The client should not repeat the request without modifications.
401	Unauthorized	The status code is returned after the client provides the authentication information, indicating that the authentication information is incorrect or invalid.
402	Payment Required	This status code is reserved for future use.
403	Forbidden	The request is rejected. The server has received and understood the request; yet it refused to respond, because the request is set to deny access. Do not retry the request before modification.
404	NotFound	The requested resource cannot be found. The client should not repeat the request without modifications.
405	MethodNotAllowed	The method specified in the request is not supported for the requested resource. The client should not repeat the request without modifications.
406	Not Acceptable	The server cannot fulfill the request according to the content characteristics of the request.
407	Proxy Authentication Required	This status code is similar to 401, but indicates that the client must first authenticate itself with the proxy.
408	Request Time-out	The server timed out waiting for the request. The client may repeat the request without modifications at any later time.
409	Conflict	The request could not be processed due to a conflict. This status code indicates that the resource that the client attempts to create already exists, or the request fails to be processed because of the update of the conflict request.
410	Gone	The requested resource is no longer available. The requested resource has been deleted permanently.

Status Code	Code	Description
411	Length Required	The server refuses to process the request without a defined Content-Length.
412	Precondition Failed	The server does not meet one of the preconditions that the requester puts on the request.
413	Request Entity Too Large	The request is larger than that a server is able to process. The server may close the connection to prevent the client from continuing the request. If the server temporarily cannot process the request, the response will contain a Retry-After header field.
414	Request-URI Too Large	The URI provided was too long for the server to process.
415	Unsupported Media Type	The server is unable to process the media format in the request.
416	Requested range not satisfiable	The requested range is invalid.
417	Expectation Failed	The server fails to meet the requirements of the Expect request-header field.
422	UnprocessableEntity	The request is well-formed but is unable to be processed due to semantic errors.
429	TooManyRequests	The client has sent more requests than its rate limit is allowed within a given amount of time, or the server has received more requests than it is able to process within a given amount of time. In this case, it is advisable for the client to re-initiate requests after the time specified in the Retry-After header of the response expires.
500	InternalServerError	The server is able to receive the request but it could not understand the request.
501	Not Implemented	The server does not support the requested function.
502	Bad Gateway	The server acting as a gateway or proxy receives an invalid response from a remote server.
503	ServiceUnavailable	The requested service is invalid. The client should not repeat the request without modifications.
504	ServerTimeout	The request cannot be fulfilled within a given time. The response will reach the client only if the request carries a timeout parameter.

Status Code	Code	Description
505	HTTP Version not supported	The server does not support the HTTP protocol version used in the request.

B Change History

Released On	Description
2024-05-11	<p>This issue is the twelfth official release, which incorporates the following changes:</p> <ul style="list-style-type: none">• Supported task querying using multiple task IDs in Querying Tasks of a Tenant and Querying Tasks.• Added the <code>kafka_security_config</code> field in Creating Tasks in Batches, Testing Connections in Batches, Modifying Tasks in Batches, and Querying Task Details in Batches.• Added the <code>instid</code> and <code>kafkaSecurityConfig</code> fields in Testing Connections in Batches (Cluster Mode).• Added Querying Value Comparison Differences.• Added Creating an Object-level Comparison Task.• Added Querying the Overview of an Object Comparison Task.• Added Querying Details About an Object Comparison Task.• Added Exporting the Result File of a Comparison Task.• Added Downloading the Result File of a Comparison Task.• Added Modifying the Comparison Policy.• Added Querying Details About a Health Comparison Task.• Added Obtaining the Overview of an Object-Level Health Comparison.

Released On	Description
2024-04-15	<p>This issue is the eleventh official release, which incorporates the following changes:</p> <ul style="list-style-type: none"> • Added Querying Data-level Table Comparison Tasks. • Added Creating a Data-level Table Comparison Task. • Added Canceling a Comparison Task. • Added Immediately Starting a Data-level Table Comparison Task. • Added Querying the Row Comparison Overview. • Added Querying Row Comparison Details. • Added Querying the Value Comparison Overview. • Added Querying Value Comparison Details. • Added Querying the Permissions of an Agency. • Added Querying the Workload Replay Result. • Added the source field to the response parameters in Querying Data Processing Rules.
2024-03-14	<p>This issue is the tenth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"> • Added the public_ip_config field in Creating Tasks in Batches, Creating a Task, Asynchronously Creating Tasks in Batches, and Performing Operations on a Task with a Specified ID. • Added the ddl_topic field in Configuring Synchronization Policies in Batches. • Added Querying Available Node Specifications. • Added Adding Resource Tags in Batches. • Added Deleting Resource Tags in Batches. • Added Querying the Resource Instance List. • Added Querying the Number of Resource Instances. • Added Querying Tags of a Task. • Added Querying Tags of a Specified Project.

Released On	Description
2024-01-11	<p>This issue is the ninth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"> • Added Updating Task Parameters. • Added Querying Task Parameter Configuration List. • Added Querying Task Parameter Change History. • Supported the creation of migration tasks from Redis to GeminiDB Redis and from cluster Redis to GeminiDB Redis using v5 APIs.
2023-11-23	<p>This issue is the eighth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"> • Added the <code>is_show_breakpoint_position</code> field in Stopping or Deleting Tasks in Batches. • Added the <code>incre_trans_delay_millis</code> field in Querying Task Progress in Batches. • Added the <code>file_and_position</code> and <code>gtid_set</code> fields in Configuring Synchronization Policies in Batches. • Added the <code>dml_types</code> field in Updating Details About a Task with a Specified ID. • Added the <code>dml_types</code> field in Asynchronously Creating Tasks in Batches. • Added the <code>dml_types</code> field in Updating Details About Tasks Created Asynchronously in Batches with a Specified ID. • Added the <code>dml_types</code> field in Querying Task Details. • Added the <code>connection_management</code> and <code>dml_types</code> fields in Querying Details About Tasks Created Asynchronously in Batches with a Specified ID. • Added the <code>connection_management</code> field in Querying Task Details. • Added Uploading a Driver File. • Added Deleting a Driver File. • Added Synchronizing a Driver File. • Added Querying the Driver File List.

Released On	Description
2023-11-02	This issue is the seventh official release, which incorporates the following changes: <ul style="list-style-type: none">• Added Collecting Database Position Information.• Added Obtaining the Result for Querying Database Position.• Added request examples in section Updating Details About a Task with a Specified ID.• Added request examples in section Performing Operations on a Task with a Specified ID.
2023-08-30	This issue is the sixth official release, which incorporates the following change: <ul style="list-style-type: none">• Added the v5 APIs for DRS.
2023-05-11	This issue is the fifth official release, which incorporates the following changes: <ul style="list-style-type: none">• Added the data_transformation and tags fields to "Response Parameters" of Querying Task Details in Batches.• Added the apply_bytes_rate field to "Response Parameters" of Querying DR Monitoring Data.• Added Error Code related to the connection test.
2023-04-21	This issue is the fourth official release, which incorporates the following changes: <ul style="list-style-type: none">• Allowed users to create MySQL-to-Kafka and GaussDB(for MySQL)-to-Kafka synchronization tasks using v3 APIs.• Added the job_action field in Querying Tasks of a Tenant.• Added the original_job_direction field in Querying Task Details in Batches.
2022-12-29	This issue is the third official release, which incorporates the following changes: <ul style="list-style-type: none">• Yearly/Monthly tasks can be created using v3 APIs.• Added the object_infos field in Querying Task Details in Batches.
2022-12-01	This issue is the second official release, which incorporates the following changes: <ul style="list-style-type: none">• Adjusted v3 APIs to APIs V3.0 (Recommended) and APIs V3.0 (Deprecated).
2022-10-15	This is the first official release.