

Data Admin Service(DAS)

API Reference

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1 Before You Start

Overview

This document describes how to use APIs to perform operations on DAS, such as querying metadata locks and creating database users. For details about all supported operations, see [API Overview](#).

Before calling DAS APIs, you need to understand concepts related to DAS. For more information, see [Service Overview](#).

Calling Method

DAS supports Representational State Transfer (REST) APIs. You can call APIs over HTTPS. For details about calling methods, see [Calling APIs](#).

You can add **das:*:*** or the DAS FullAccess system policy to call APIs.

Endpoint

An endpoint receives API calls and sends responses. Endpoints vary depending on services and regions. For the endpoints of all services, see [Regions and Endpoints](#).

Constraints

For details, see the description of each API.

Concepts

- Account

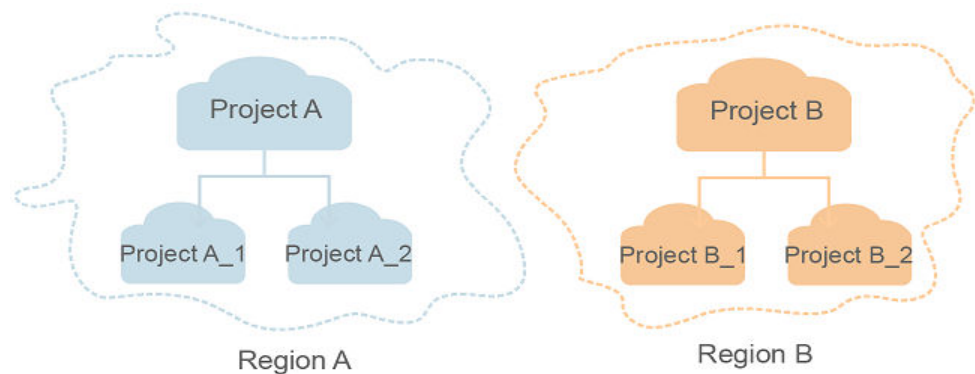
An account is created upon successful registration with the cloud platform. The account has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions. The account is a payment entity and should not be used directly to perform routine management. For security purposes, create users and grant them permissions for routine management.

- 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).

- **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. By creating cloud resources in different regions, you can design applications to better meet customer requirements and comply with local laws and 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 region. Default projects are defined to group and physically isolate resources (including compute, storage, and network resources) between different regions. Users can be granted permissions in a default project to access all resources under their accounts in the region associated with the project. If you need more refined access control, create subprojects under a default project and create resources in subprojects. Then you can assign users the permissions required to access only the resources in the specific subprojects.

Figure 1-1 Project isolation



- **Enterprise project**
Enterprise projects group and manage resources across regions. Resources in enterprise projects are logically isolated from each other. An enterprise project can contain resources of multiple regions, and resources can be added to or removed from the enterprise project.
For details about enterprise projects and how to obtain enterprise project IDs, see [Enterprise Management User Guide](#).

2 API Overview

DAS provides extension APIs. By calling DAS APIs, you can use some DAS functions. See the following table for details.

Table 2-1 APIs

Type	Description
Querying API Versions	- Query API versions. - Query a specified API version.
Querying a SQL Execution Plan	Query a SQL execution plan. Currently, this function is supported only for MySQL DB instances.
Killing Sessions	Kill sessions. Sessions are killed by user, database, or session ID. Currently, this function is supported only for MySQL DB instances.
Querying Metadata Locks	Query metadata locks. Currently, this function is supported only for MySQL DB instances.
Querying InnoDB Lock Waits	Query InnoDB lock waits. Currently, this function is supported only for MySQL DB instances.
Querying Database Users	Query registered database users. Currently, this function is supported only for MySQL DB instances.
Registering a Database User	Register the database username and password with the DAS system. A database user ID will be returned in the response and is required for calling other APIs, such as the API used to query instance sessions. The database password is encrypted and used for DAS API calls only. This API does not create database user objects on the database. Currently, this function is supported only for MySQL DB instances.
Querying Instance Sessions	Query instance sessions by database or user. Currently, this function is supported only for MySQL DB instances.

Type	Description
Querying a Specified Database User	Query information of a specified database user. Currently, this function is supported only for MySQL DB instances.
Modifying a Database User	Change the username and password for a registered database user. Currently, this function is supported only for MySQL DB instances.
Deleting a Database User	Delete a database user. The database user is deleted from the DAS system only. The real database user object is not deleted. Currently, this function is supported only for MySQL DB instances.
Obtaining the Space Analysis Data	Obtain the space analysis data. The file system generates instance-level data, and the information_schema.tables table generates database-level and table-level data. Space & Metadata Analysis allows you to analyze a maximum of 10,000 tables. If tablespace data is missing, there may be too many instance tables, or the account password has not been saved. If the password has not been saved, use the user management API or page to save the database account. MySQL and TaurusDB are supported.
Creating a Space Analysis Task	This API is used to create a space analysis task, for example, triggering re-analysis. This function is supported for MySQL and TaurusDB.
Enabling or Disabling SQL Explorer and Slow Query Log	Enable or disable SQL Explorer. After this function is enabled, the instance performance loss rate is within 5% and DAS stores all SQL statement logs for analysis. You can set the retention period of SQL explorer data. After the retention period expires, the data is automatically deleted. If not specified, the data is retained for seven days. Enable or disable Slow Query Log. After this function is enabled, DAS stores slow query logs for analysis. You can set the retention period of slow query logs. After the retention period expires, the data is automatically deleted. If not specified, the data is retained for seven days.
Querying Whether SQL Explorer and Slow Query Log Are Enabled	Query whether SQL Explorer and Slow Query Log are enabled.
Exporting Slow Query Logs	After Slow Query Log is enabled, you can export the slow query logs within a specified period at a time. The data can be obtained by page.

Type	Description
Exporting SQL Explorer Data	After SQL Explorer is enabled, you can export the SQL explorer data within a specified period at a time. The data can be obtained by page.
Querying Whether SQL Statement Concurrency Control Is Enabled	Query whether SQL Statement Concurrency Control is enabled. Currently, this function is supported only for MySQL DB instances.
Enabling or Disabling SQL Statement Concurrency Control	Enable or disable SQL Statement Concurrency Control. Currently, this function is supported only for MySQL DB instances.
Querying Concurrency Control Rules of SQL Statements	Query concurrency control rules of SQL statements. Currently, this function is supported only for MySQL DB instances.
Creating a Concurrency Control Rule	Add concurrency control rules of SQL statements. Currently, this function is supported only for MySQL DB instances. The restrictions are as follows: • Take select~a as an example. select and a are two keywords contained in a concurrency control rule. The keywords are separated by a tilde (~). In this example, the rule restricts the execution of only the SQL statements containing keywords select and a. • If a SQL statement matches multiple concurrency control rules, only the most recently added rule is applied. • Keywords in a concurrency control rule are sorted in a specific order, and the system will match them from first to last. For example, if one rule contains the keyword a~and~b, the system only matches xxx a>1 and b>2. • Generated keywords may be case-sensitive. Execute show variables like 'rds_sqlfilter_case_sensitive' or go to the console to check parameter settings. • Concurrency control rules can only be added for primary instances. • System catalogs are not restricted, queries which do not involve data are not restricted, and the root user is not restricted in specific versions.
Deleting a Concurrency Control Rule	Delete concurrency control rules of SQL statements. Currently, this function is supported only for MySQL DB instances.
Querying Concurrency Control Tasks	Query information about an SQL concurrency control task with a specified ID.

Type	Description
Exporting the Top SQL Template List	Export the top SQL template list after Top SQL is enabled. This function is available only for paid instances. The maximum query interval is one hour.
Exporting SQL Execution Time Distribution	Export the SQL execution duration after Top SQL is enabled. This function is available only for paid instances. The query interval is 6 hours.
Exporting the Slow SQL Template List	Export the slow SQL template list after Slow Query Log is enabled. This function is available only for paid instances. The maximum query interval is one day.

3 Calling APIs

3.1 Making an API Request

This section describes the structure of a REST API request and uses the example in [Creating an IAM User](#) to describe how to call an API.

Request URI

A request URI is in the following format:

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

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

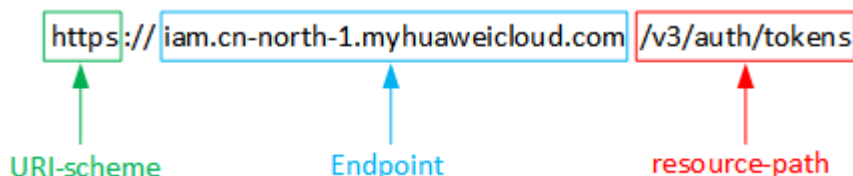
Table 3-1 URI parameter description

Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS.
Endpoint	Domain name or IP address of the server running 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	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the resource-path of the API used to obtain a user token is /v3/auth/tokens .
query-string	Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of "Parameter name=Parameter value". For example, ?limit=10 indicates that a maximum of 10 data records will be displayed.

For example, to obtain an IAM token in the **CN 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 Methods

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

Table 3-2 HTTP Method

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

For example, in the URI for **obtaining a user token**, the request method is POST, and the request is as follows:

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

Request Header

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

Table 3-3 lists common request header fields.

Table 3-3 Common request header fields

Field	Description	Mandatory	Example Value
Host	Specifies the server domain name and port number of the resources being requested. The value is in the format of <i>hostname[:port]</i> . If the port number is not specified, the default port is used. The default port number for https is 443 .	No This field is mandatory for AK/SK authentication.	code.test.com or code.test.com:443
Content-Type	Specifies the MIME type of the request body. The default value application/json is recommended. For APIs used to upload objects or images, the value varies depending on the flow type.	Yes	application/json
Content-Length	Specifies the length of the request body. The unit is byte.	This field is optional for POST requests, but must be left blank for GET requests.	3495
X-Project-Id	Specifies the project ID. Obtain the project ID by following the instructions in Obtaining a Project ID .	No This field is mandatory for requests that use AK/SK authentication in the Dedicated Cloud (DeC) scenario or multi-project scenario.	e9993fc787d94b6c886cb aa340f9c0f4

Field	Description	Mandatory	Example Value
X-Auth-Token	Specifies a user token. After the request is processed, the value of X-Subject-Token in the header is the token value.	No This field is mandatory for token authentication.	The following is part of an example token: MIIPAgYJKoZfegerlhvc-NAQcCo...ggg1BBIINPXsi dG9rZ

NOTE

In addition to supporting authentication using tokens, APIs support authentication using AK/SK, which uses SDKs to sign a request. During the signature, the **Authorization** (signature authentication) and **X-Sdk-Date** (time when a request is sent) headers are automatically added in the request.

For more information, see **Authentication Using AK/SK** in [Authentication](#).

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
```

(Optional) Request Body

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

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

For the API used to [obtain a user token](#), the request parameters and parameter description can be obtained in the API request. The following provides an example request with a body included. Replace *username*, *domainname*, ******* (login password), and *xxxxxxxxxxxxxxxxxx* (project name such as cn-north-1) with the actual values. 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. In the following example, the token takes effect only for the resources in a specified project. For more information about this API, see [Obtaining a User Token](#).

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

```
{
  "auth": {
    "identity": {
      "methods": [
```

```
    "password": {
      "user": {
        "name": "username",
        "password": "*****#",
        "domain": {
          "name": "domainname"
        }
      }
    },
    "scope": {
      "project": {
        "name": "xxxxxxxxxxxxxxxxxxxxxx"
      }
    }
  }
}
```

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

3.2 Authentication

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

- AK/SK-based authentication: Requests are encrypted using an AK/SK. AK/SK-based authentication is recommended because it is more secure than token-based authentication.
- Token-based authentication: Requests are authenticated using a token.

AK/SK-based Authentication

NOTE

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

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

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

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

NOTE

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

Token-based 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 need to obtain a token and add **X-Auth-Token** to the request header of API calls.

When you [call an API to obtain a user token](#), set **auth.scope** in the request body to **project**.

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

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

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

3.3 Response

Status Code

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

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

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

Response Header

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

Figure 3-2 shows the response header fields for the API used to **obtain a user token**. The **x-subject-token** header field is the desired user token. 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-iam-trace-id → 218d45ab-d674-4995-af3a-2d0255ba41b5
x-subject-token → MIIYXQYJKoZIhvcNAQcColIYTCCEGoCAQExDTALBglghkgBZQMEAgEwgharBgkqhkiG9w0BBwGgghacBIIIWmHsidG9rZW4iOnsiZmVhbnRlMTktMTNUMC
fj3KJs6YgKnpVNRbW2eZ5eb78SZOkqACgkqO1wi4JIJGzrpd18LGXKSbldfq4lqHCYb8P4NaY0NYejcAgzJVeFTYtLWT1GSO0zxKZmlQHqJ82HBqHdgIZO9fuEbL5dMhdavj+33wEI
xHRCe9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXl1jpPEGA270g1Fruool6jaglfkNPQuFSOU8+uSsttVwRtNfsC+qTp22Rkd5MCqFGQ8LcuUxC3a+9CMBnOintWW7oeRUvhVpxk8pxiXlwTEboX-
RzT6MUbpvGw-oPNFYxJECKnoH3HRozv0vN--n5d6Nbxg==
x-xss-protection → 1; mode=block;
```

(Optional) Response Body

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

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

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

```

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

```
{
  "error_code": "DAS.200114",
  "error_msg": "The instance_id parameter is invalid."
}
```

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

4 APIs (in OBT)

4.1 API Version Queries

4.1.1 Querying API Versions

Function

This API is used to query API versions.

URI

GET /das

Request Parameters

None

Response Parameters

Status code: 200

Table 4-1 Response body parameter

Parameter	Type	Description
versions	Array of ApiVersion objects	Explanation: API version details Values: N/A

Table 4-2 ApiVersion

Parameter	Type	Description
id	String	Explanation: API version, for example, v3 Values: N/A
status	String	Explanation: Version status Values: ● CURRENT: The current version is recommended. ● SUPPORTED: The current version is supported. ● DEPRECATED: The current version is deprecated and may be deleted later.
updated	String	Explanation: Version release time in the format of <i>yyyy-mm-ddThh:mm:ssZ</i> T is the separator between the calendar and the hourly notation of time. Z indicates the Coordinated Universal Time (UTC). Values: N/A
version	String	Explanation: API microversion. If the APIs do not support microversions, the value is left blank. Values: N/A

Example Request

This API is used to query API versions.

Example Responses

Status code: 200

```
{
  "versions": [ {
    "id": "v3",
    "version": "",
    "status": "CURRENT",
    "updated": "2021-01-15T12:00:00Z"
  } ]
}
```

Status Code

Status Code	Description
200	Successful request

Error Code

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

4.1.2 Querying a Specified API Version

Function

This API is used to query a specified API version.

URI

GET /das/{version}

Table 4-3 URI parameter

Parameter	Mandatory	Type	Description
version	Yes	String	Explanation: API version Constraints: N/A Values: N/A Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-4 Response body parameter

Parameter	Type	Description
version	ApiVersion object	Explanation: API version details Values: N/A

Table 4-5 ApiVersion

Parameter	Type	Description
id	String	Explanation: API version, for example, v3 Values: N/A
status	String	Explanation: Version status Values: ● CURRENT: The current version is recommended. ● SUPPORTED: The current version is supported. ● DEPRECATED: The current version is deprecated and may be deleted later.
updated	String	Explanation: Version release time in the format of <i>yyyy-mm-ddThh:mm:ssZ</i> T is the separator between the calendar and the hourly notation of time. Z indicates the Coordinated Universal Time (UTC). Values: N/A
version	String	Explanation: API microversion. If the APIs do not support microversions, the value is left blank. Values: N/A

Example Request

This API is used to query a specified API version.

Example Responses

Status code: 200

Successful request

```
{
  "version" : {
    "id" : "v3",
    "version" : "",
    "status" : "CURRENT",
    "updated" : "2021-01-15T12:00:00Z"
  }
}
```

Status Code

Status Code	Description
200	Successful request

Error Code

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

4.2 Intelligent O&M

4.2.1 Registering a Database User

Function

This API is used to register the database username and password with the DAS system. A database user ID will be returned in the response and is required for calling other APIs, such as the API used to query instance sessions. The database password is encrypted and used for DAS API calls only. This API does not create database users on the instance. Ensure that the entered username and password are valid. Currently, only MySQL instances are supported.

URI

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

Table 4-6 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

Table 4-7 Request body parameters

Parameter	Mandatory	Type	Description
db_username	Yes	String	Explanation: Database username Constraints: N/A Values: N/A Default value: N/A

Parameter	Mandatory	Type	Description
db_user_password	Yes	String	Explanation: Database user password Constraints: N/A Values: N/A Default value: N/A
datastore_type	Yes	String	Explanation: Database type. Currently, only MySQL is supported. Constraints: N/A Values: MySQL instance: MySQL Default value: N/A

Response Parameters

Status code: 200

Table 4-8 Response body parameters

Parameter	Type	Description
db_user_id	String	Explanation: Database user ID, that is, ID of a connection established between the database account and the database. A database user ID is created by calling the API in Registering a Database User . Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed.

Example Request

Registering the **root** database user

```
POST https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/db-users
```

```
{
  "db_username" : "root",
  "db_user_password" : "password",
  "datastore_type" : "mysql"
}
```

Example Response

Status code: 200

Successful request

```
{
  "db_user_id" : "2e407f6b-8c09-494a-a62f-31b01439596f"
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.2 Modifying a Database User

Function

This API is used to change the username and password for a registered database user on DAS. This API does not change the username and password of the database user object on the DB instance. Ensure that the entered username and password are valid. Currently, only MySQL instances are supported.

URI

PUT /v3/{project_id}/instances/{instance_id}/db-users/{db_user_id}

Table 4-9 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
db_user_id	Yes	String	Explanation: Database user ID, that is, ID of a connection established between the database account and the database. A database user ID is created by calling the API in Registering a Database User . Constraints: N/A Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed. Default value: N/A

Request Parameters

Table 4-10 Request body parameters

Parameter	Mandatory	Type	Description
db_username	Yes	String	Explanation: Database username Constraints: N/A Values: N/A Default value: N/A
db_user_password	Yes	String	Explanation: Database user password Constraints: N/A Values: N/A Default value: N/A

Response Parameters

Status code: 200

Table 4-11 Response body parameters

Parameter	Type	Description
result	String	Explanation: Modification result. If the modification is successful, OK is returned. Values: OK

Example Request

Changing the database username to **user**

```
PUT https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/db-users/24c0c455-1f0e-448b-acb2-6e184b4ffcfa
{
```

```
"db_username" : "user",  
"db_user_password" : "password"  
}
```

Example Response

Status code: 200

Successful request

```
{  
  "result" : "OK"  
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.3 Deleting a Database User

Function

This API is used to delete a database user on DAS. The database user is deleted from the DAS system only. The real database user object is not deleted. Currently, only MySQL instances are supported.

URI

DELETE /v3/{project_id}/instances/{instance_id}/db-users/{db_user_id}

Table 4-12 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
db_user_id	Yes	String	Explanation: Database user ID, that is, ID of a connection established between the database account and the database. A database user ID is created by calling the API in Registering a Database User . Constraints: N/A Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed. Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-13 Response body parameters

Parameter	Type	Description
result	String	Explanation: Modification result. If the deletion is successful, OK is returned. Values: OK

Example Request

Deleting a database user

```
DELETE https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/db-users/24c0c455-1f0e-448b-acb2-6e184b4ffcfa
```

Example Response

Status code: 200

Successful request

```
{  
  "result" : "OK"  
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.4 Querying Intelligent O&M Quotas

Function

This API is used to query Intelligent O&M quotas.

URI

GET /v3/{project_id}/quotas

Table 4-14 URI parameters

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

Request Parameters

None

Response Parameters

Status code: 200

Table 4-15 Response body parameters

Parameter	Type	Description
quotas	Array of Quotas objects	Explanation: Objects in the quota list. Values: N/A

Table 4-16 Quotas

Parameter	Type	Description
resources	Array of Resource objects	Explanation: Resource objects. Values: N/A

Table 4-17 Resource

Parameter	Type	Description
type	String	Explanation: Resource type used to filter quotas Values: Intelligent O&M: cloudDb
used	Long	Explanation: Number of created resources Values: [0, 2 ³¹ -1]. The actual value depends on the query result.
quota	Long	Explanation: Maximum resource quota Values: [0, 2 ³¹ -1]. The actual value depends on the query result.
min	Long	Explanation: Minimum quota Values: [0, 2 ³¹ -1]. The actual value depends on the query result.

Example Request

Querying Intelligent O&M quotas

GET <https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/quotas>

Example Response

Status code: 200

Objects in the quota list

```
{
  "quotas" : {
    "resources" : [ {
      "type" : "cloudDb",
      "used" : 2,
      "quota" : 14,
      "min" : 0
    } ]
  }
}
```

Status Codes

Status Code	Description
200	Objects in the quota list.
400	Client error.
500	Server error.

Error Codes

See [Error Codes](#).

4.2.5 Querying Database User Information

Function

This API is used to query information of a specified database user on DAS. It does not query database user objects on a DB instance. Currently, only MySQL instances are supported.

URI

GET /v3/{project_id}/instances/{instance_id}/db-users/{db_user_id}

Table 4-18 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
db_user_id	Yes	String	Explanation: Database user ID, that is, ID of a connection established between the database account and the database. A database user ID is created by calling the API in Registering a Database User . Constraints: N/A Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed. Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-19 Response body parameters

Parameter	Type	Description
db_user	DbUser object	Explanation: Database user information Values: N/A

Table 4-20 DbUser

Parameter	Type	Description
db_user_id	String	Explanation: Database user ID, that is, ID of a connection established between the database account and the database. A database user ID is created by calling the API in Registering a Database User . Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed.
db_username	String	Explanation: Database username Values: N/A

Example Request

Querying information about a database user

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/db-users/fe67bf85-cbd9-4819-ba74-fa0bba141690
```

Example Response

Status code: 200

Successful request

```
{
  "db_user" : {
    "db_user_id" : "2e407f6b-8c09-494a-a62f-31b01439596f",
    "db_username" : "root"
  }
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.6 Querying Database Users

Function

This API is used to query database users registered on DAS. **db_user_id** returned by this API is required for calling other APIs (such as the API for querying instance sessions). It does not return database user objects on a DB instance. Currently, only MySQL instances are supported.

URI

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

Table 4-21 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-22 Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Explanation: Index offset. The query starts from the next piece of data indexed by this parameter. If this parameter is set to 1 and limit is set to 10 , only the second to eleventh records are displayed. Constraints: N/A Values: [0, 2^31-1] Default value: 0 : The query starts from the first data record.
limit	No	Integer	Explanation: Number of records to be queried. If this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints: N/A Values: [1, 100] Default value: 100

Parameter	Mandatory	Type	Description
db_user_id	No	String	Explanation: Database user ID, that is, ID of a connection established between the database account and the database. A database user ID is created by calling the API in Registering a Database User . Constraints: N/A Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed. Default value: N/A
db_username	No	String	Explanation: Database username Constraints: N/A Values: N/A Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-23 Response body parameters

Parameter	Type	Description
total	Integer	Explanation: Total number of records Values: [0, 2 ³¹ -1]. The actual value depends on the query result.

Parameter	Type	Description
db_users	Array of DbUser objects	Explanation: Database user list Values: N/A

Table 4-24 DbUser

Parameter	Type	Description
db_user_id	String	Explanation: Database user ID, that is, ID of a connection established between the database account and the database. A database user ID is created by calling the API in Registering a Database User . Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed.
db_username	String	Explanation: Database username Values: N/A

Example Request

Querying database users

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/db-users
```

Example Response

Status code: 200

Successful request

```
{
  "total": 1,
  "db_users": [ {
    "db_user_id": "24c0c455-1f0e-448b-acb2-6e184b4ffcfa",
    "db_username": "root"
  } ]
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.7 Killing Sessions

Function

Kill sessions. Sessions are killed by user, database, or session ID. Currently, only MySQL instances are supported.

URI

DELETE /v3/{project_id}/instances/{instance_id}/process

Table 4-25 URI parameters

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

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

Table 4-26 Request body parameters

Parameter	Mandatory	Type	Description
db_user_id	Yes	String	Explanation: Database user ID, that is, ID of a connection established between the database account and the database. A database user ID is created by calling the API in Registering a Database User . Constraints: N/A Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed. Default value: N/A

Parameter	Mandatory	Type	Description
process_ids	No	Array of strings	Explanation: Session ID list Constraints: At least one of the process_ids , user , and database parameters must be specified. Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
user	No	String	Explanation: Database user Constraints: At least one of the process_ids , user , and database parameters must be specified. Values: N/A Default value: N/A
database	No	String	Explanation: Database name Constraints: At least one of the process_ids , user , and database parameters must be specified. Values: N/A Default value: N/A

Response Parameters

Status code: 200

None

Example Request

Killing sessions by user, database, or session

```
DELETE https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/process
```

```
{
  "db_user_id" : "2c250598-1e3c-4d31-bc19-be1d866247e6",
  "database" : "example",
  "user" : "aaa",
  "process_ids" : [ "11212", "3423222" ]
}
```

Example Response

None

Status Codes

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Codes

See [Error Codes](#).

4.2.8 Querying the SQL Execution Plan (GET Request)

Function

This API is used to query a SQL execution plan. Currently, only MySQL instances are supported.

URI

GET /v3/{project_id}/instances/{instance_id}/sql/explain

Table 4-27 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: Only MySQL instances are supported. Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-28 Query parameters

Parameter	Mandatory	Type	Description
db_user_id	Yes	String	Explanation: Database user ID, that is, ID of a connection established between the database account and the database. A database user ID is created by calling the API in Registering a Database User . Constraints: N/A Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed. Default value: N/A
database	Yes	String	Explanation: Database name Constraints: Only MySQL instances are supported. Values: N/A Default value: N/A
sql	Yes	String	Explanation: SQL statement Constraints: N/A Values: N/A Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-29 Response body parameters

Parameter	Type	Description
execution_plans	Array of ExecutionPlan objects	Explanation: SQL execution plan list. Values: N/A
error_message	String	Explanation: Error message displayed if the SQL execution fails. Values: N/A

Table 4-30 ExecutionPlan

Parameter	Type	Description
id	String	Explanation: Execution plan ID Values: [0, 2 ³¹ -1]. The actual value depends on the query result.
select_type	String	Explanation: Type of the SELECT clause Values: N/A
table	String	Explanation: Database table Values: N/A
partitions	String	Explanation: Partition that will match a query record Values: N/A

Parameter	Type	Description
type	String	Explanation: Access type Values: N/A
possible_keys	String	Explanation: Key (index) that may be used Values: N/A
key	String	Explanation: Key (index) that is used Values: N/A
key_len	String	Explanation: Length of a key to be used Values: N/A
ref	String	Explanation: Column or constant used along with a key to select rows Values: N/A
rows	String	Explanation: Number of rows that MySQL must check during a query Values: N/A
filtered	String	Explanation: Estimated percentage of table rows filtered by table condition Values: N/A
extra	String	Explanation: Other information Values: N/A

Example Request

Querying the SQL execution plan (GET request)

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/sql/explain?db_user_id=2c250598-1e3c-4d31-bc19-be1d866247e6&database=abc&sql=select 1
```

Example Response

Status code: 200

```
{
  "execution_plans": [ {
    "id": "1",
    "select_type": "SIMPLE",
    "table": "",
    "partitions": "",
    "type": "",
    "possible_keys": "",
    "key": "",
    "key_len": "",
    "ref": "",
    "rows": "",
    "filtered": "",
    "extra": "No tables used"
  } ]
}
```

Status Codes

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Codes

See [Error Codes](#).

4.2.9 Querying the SQL Execution Plan (POST Request)

Function

- This API is used to query a SQL execution plan.
- Currently, only MySQL instances are supported.
- This API serves as a supplement of GET requests to process overlong SQL statements.

URI

POST /v3/{project_id}/instances/{instance_id}/sql/explain

Table 4-31 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: Only MySQL instances are supported. Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

Table 4-32 Request body parameters

Parameter	Mandatory	Type	Description
db_user_id	No	String	Explanation: Database user ID, that is, ID of a connection established between the database account and the database. A database user ID is created by calling the API in Registering a Database User . Constraints: N/A Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed. Default value: N/A
database	No	String	Explanation: Database name Constraints: Only MySQL instances are supported. Values: N/A Default value: N/A
sql	No	String	Explanation: SQL statement Constraints: N/A Values: N/A Default value: N/A

Response Parameters

Status code: 200

Table 4-33 Response body parameters

Parameter	Type	Description
execution_plans	Array of ExecutionPlan objects	Explanation: SQL execution plan list. Values: N/A
error_message	String	Explanation: Error message displayed if the SQL execution fails. Values: N/A

Table 4-34 ExecutionPlan

Parameter	Type	Description
id	String	Explanation: Execution plan ID Values: [0, 2 ³¹ -1]. The actual value depends on the query result.
select_type	String	Explanation: Type of the SELECT clause Values: N/A
table	String	Explanation: Database table Values: N/A
partitions	String	Explanation: Partition that will match a query record Values: N/A
type	String	Explanation: Access type Values: N/A

Parameter	Type	Description
possible_keys	String	Explanation: Key (index) that may be used Values: N/A
key	String	Explanation: Key (index) that is used Values: N/A
key_len	String	Explanation: Length of a key to be used Values: N/A
ref	String	Explanation: Column or constant used along with a key to select rows Values: N/A
rows	String	Explanation: Number of rows that MySQL must check during a query Values: N/A
filtered	String	Explanation: Estimated percentage of table rows filtered by table condition Values: N/A
extra	String	Explanation: Other information Values: N/A

Example Request

Querying the SQL execution plan (POST request)

```
POST https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/sql/explain
```

```
{
```

```
"db_user_id" : "2c250598-1e3c-4d31-bc19-be1d866247e6",  
"database" : "abc",  
"sql" : "select 1"  
}
```

Example Response

Status code: 200

```
{  
  "execution_plans" : [ {  
    "id" : "1",  
    "select_type" : "SIMPLE",  
    "table" : "",  
    "partitions" : "",  
    "type" : "",  
    "possible_keys" : "",  
    "key" : "",  
    "key_len" : "",  
    "ref" : "",  
    "rows" : "",  
    "filtered" : "",  
    "extra" : "No tables used"  
  } ]  
}
```

Status Codes

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Codes

See [Error Codes](#).

4.2.10 Querying Metadata Locks

Function

Query metadata locks. Currently, only MySQL instances are supported.

URI

GET /v3/{project_id}/instances/{instance_id}/metadata-locks

Table 4-35 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: Only MySQL instances are supported. Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-36 Query parameters

Parameter	Mandatory	Type	Description
db_user_id	Yes	String	Explanation: Database user ID, that is, ID of a connection established between the database account and the database. A database user ID is created by calling the API in Registering a Database User . Constraints: N/A Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed. Default value: N/A
thread_id	No	String	Explanation: Session ID Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
database	No	String	Explanation: Database name Constraints: Only MySQL instances are supported. Values: N/A Default value: N/A

Parameter	Mandatory	Type	Description
table	No	String	Explanation: Table name Constraints: Only MySQL instance tables are supported. Values: N/A Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-37 Response body parameters

Parameter	Type	Description
metadata_locks	Array of MetadataLock objects	Explanation: List of metadata locks. Values: N/A
count	Integer	Explanation: Number of metadata locks. Values: [0, 2 ³¹ -1]. The actual value depends on the query result.

Table 4-38 MetadataLock

Parameter	Type	Description
thread_id	String	Explanation: Session ID Values: [0, 2 ³¹ -1]. The actual value depends on the query result.

Parameter	Type	Description
lock_status	String	Explanation: Lock status Values: ● PENDING: A lock wait occurs. ● GRANTED: A lock is held.
lock_mode	String	Explanation: Lock mode Values: ● MDL_SHARED ● MDL_EXCLUSIVE ● MDL_SHARED_READ ● MDL_SHARED_WRITE
lock_type	String	Explanation: Lock type Values: ● Table metadata lock ● Schema metadata lock ● Tablespace lock ● Global read lock
lock_duration	String	Explanation: Lock granularity Values: ● MDL_STATEMENT: statement level ● MDL_TRANSACTION: transaction level ● MDL_EXPLICIT: global level
table_schema	String	Explanation: Database where a lock is located. This field is left blank for some global read metadata locks. Values: N/A
table_name	String	Explanation: Table name Values: N/A

Parameter	Type	Description
user	String	Explanation: User Values: N/A
time	String	Explanation: Time Values: N/A
host	String	Explanation: Host Values: N/A
database	String	Explanation: Database where a session is located Values: N/A
command	String	Explanation: Command Values: N/A
state	String	Explanation: Status Values: N/A
sql	String	Explanation: SQL statement Values: N/A
trx_exec_time	String	Explanation: Transaction execution time Values: N/A
block_process	Array of Process objects	Explanation: List of blocked sessions Values: N/A

Parameter	Type	Description
wait_process	Array of Process objects	Explanation: List of waiting sessions Values: N/A

Table 4-39 Process

Parameter	Type	Description
id	String	Explanation: Session ID Values: [0, 2 ³¹ -1]. The actual value depends on the query result.
user	String	Explanation: User Values: N/A
host	String	Explanation: Host Values: N/A
database	String	Explanation: Database Values: N/A
command	String	Explanation: Command Values: N/A
time	String	Explanation: Session duration Values: N/A

Parameter	Type	Description
state	String	Explanation: Status Values: N/A
sql	String	Explanation: SQL statement Values: N/A
trx_executed_time	String	Explanation: Transaction duration Values: N/A

Example Request

Querying metadata locks

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/metadata-locks?db_user_id=2c250598-1e3c-4d31-bc19-be1d866247e6&thread_id=12121&database=example&table=example
```

Example Response

Status code: 200

```
{
  "metadata_locks": [ {
    "thread_id": "4096619",
    "lock_status": "GRANTED",
    "lock_mode": "MDL_SHARED_READ",
    "lock_type": "Table metadata lock",
    "lock_duration": "MDL_TRANSACTION",
    "table_schema": "test_zyr",
    "table_name": "test2",
    "user": "root",
    "time": "40",
    "host": "das server",
    "database": "test_zyr",
    "command": "Sleep",
    "state": "",
    "sql": null,
    "trx_exec_time": "341",
    "block_process": [ ],
    "wait_process": [ ]
  } ],
  "count": 1
}
```

Status Codes

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Codes

See [Error Codes](#).

4.2.11 Querying Instance Sessions

Function

Query instance sessions by database or user. Currently, this function is supported only for MySQL DB instances.

URI

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

Table 4-40 URI parameters

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

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-41 Query parameters

Parameter	Mandatory	Type	Description
db_user_id	Yes	String	Explanation: Database user ID, that is, ID of a connection established between the database account and the database. A database user ID is created by calling the API in Registering a Database User . Constraints: N/A Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed. Default value: N/A

Parameter	Mandatory	Type	Description
user	No	String	Explanation: Database user Constraints: At least one of the user and database parameters must be specified. Values: N/A Default value: N/A
database	No	String	Explanation: Database name Constraints: At least one of the user and database parameters must be specified. Values: N/A Default value: N/A
offset	No	Integer	Explanation: Index offset. The query starts from the next piece of data indexed by this parameter. If this parameter is set to 1 and limit is set to 10 , only the second to eleventh records are displayed. Constraints: N/A Values: [0, 2 ³¹ -1] Default value: 0: The query starts from the first data record.

Parameter	Mandatory	Type	Description
limit	No	Integer	Explanation: Number of records to be queried. If this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints: N/A Values: [1, 100] Default value: 100
node_id	No	String	Explanation: Unique ID of a node Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-42 Response body parameters

Parameter	Type	Description
processes	Array of Process objects	Explanation: Sessions Values: N/A

Parameter	Type	Description
count	Long	Explanation: Total number of records Values: [0, 2 ³¹ -1]. The actual value depends on the query result.

Table 4-43 Process

Parameter	Type	Description
id	String	Explanation: Session ID Values: N/A
user	String	Explanation: Username Values: N/A
host	String	Explanation: Host Values: N/A
database	String	Explanation: Database name Values: N/A
command	String	Explanation: Command Values: N/A
time	String	Explanation: Session duration Values: N/A

Parameter	Type	Description
state	String	Explanation: Status Values: N/A
sql	String	Explanation: SQL statement Values: N/A
trx_executed_time	String	Explanation: Transaction duration Values: N/A

Example Request

Querying instance sessions

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/processes?db_user_id=2c250598-1e3c-4d31-bc19-be1d866247e6&offset=0&limit=10
```

Example Responses

Status code: 200

```
{
  "processes": [ {
    "id": "1",
    "user": "event_scheduler",
    "host": "localhost",
    "database": "--",
    "command": "Daemon",
    "time": "4260107",
    "state": "Waiting on empty queue",
    "sql": "",
    "trx_executed_time": "0"
  } ],
  "count": 1
}
```

Status Code

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Code

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

4.2.12 Querying Risk Items of an Instance

Function

This API is used to query risk items of an instance.

URI

GET /v3/{project_id}/get-risk-items

Table 4-44 URI parameter

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

Table 4-45 Query parameter

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: - MySQL - TaurusDB - PostgreSQL - Microsoft SQL Server Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-46 Response body parameters

Parameter	Type	Description
datastore_type	String	Explanation: Database type Values: - MySQL - TaurusDB - PostgreSQL - Microsoft SQL Server
items	Array of Table 4-47 objects	Explanation: Risk item Values: N/A

Table 4-47 items

Parameter	Type	Description
metric_code	String	Explanation: Metric code Values: N/A
threshold	Double	Explanation: Threshold Values: N/A
unit	String	Explanation: Unit Values: N/A

Example Request

```
"GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/get-risk-items?
datastore_type=mysql"
```

Example Response

Status code: 200

Successful request

```
{
  "datastore_type": "mysql",
  "items": [
    {
      "metric_code": "sys001_cpu_usage",
      "threshold": 86,
      "unit": "%"
    },
    {
      "metric_code": "sys044_sell_disk_usage",
      "threshold": 7,
      "unit": "%"
    },
    {
      "metric_code": "sys010_mem_usage",
      "threshold": 10,
      "unit": "%"
    },
    {
      "metric_code": "rds098_replication_delay",
      "threshold": 0,
      "unit": "s"
    }
  ]
}
```

Status Codes

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Codes

See [Error Codes](#).

4.2.13 Querying the Risk Trend of an Instance

Function

This API is used to query the risk trend of an instance.

URI

GET /v3/{project_id}/instances/risk-trend

Table 4-48 URI parameter

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

Table 4-49 Query parameters

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: - MySQL - TaurusDB - PostgreSQL - Microsoft SQL Server Default value: N/A
start_at	Yes	Long	Explanation: Start time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
end_at	Yes	Long	Explanation: End time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
metric_code	Yes	String	Explanation: Metric code Constraints: N/A Values: N/A Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-50 Response body parameters

Parameter	Type	Description
metric_code	String	Explanation: Metric code Values: N/A
metric	Objects in Table 4-51	Explanation: Metric Values: N/A

Table 4-51 metric

Parameter	Type	Description
series	Array of double	Explanation: Value Values: N/A

Parameter	Type	Description
timestamps	Array of long	Explanation: Timestamp Values: N/A

Example Request

```
"GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/risk-trend?datastore_type=mysql&start_at=1736402167045&end_at=1736403967045&metric_code=sys001_cpu_usage"
```

Example Response

Status code: 200

Successful request

```
{  
  "metric_code": "sys001_cpu_usage",  
  "metric": {  
    "series": [  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1,  
      1  
    ],  
    "timestamps": [  
      1736402220,  
      1736402280,  
      1736402340,  
      1736402400,  
      1736402460,  
      1736402520,  
      1736402580,  
      1736402640,  
      1736402700,
```

```
1736402760,  
1736402820,  
1736402880,  
1736402940,  
1736403000,  
1736403060,  
1736403120,  
1736403180,  
1736403240,  
1736403300,  
1736403360,  
1736403420,  
1736403480,  
1736403540,  
1736403600,  
1736403660,  
1736403720,  
1736403780,  
1736403840  
]  
}  
}
```

Status Codes

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Codes

See [Error Codes](#).

4.2.14 Querying InnoDB Lock Waits

Function

Query InnoDB lock waits. Currently, this function is supported only for MySQL DB instances.

URI

GET /v3/{project_id}/instances/{instance_id}/innodb-locks

Table 4-52 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-53 Query parameter

Parameter	Mandatory	Type	Description
db_user_id	Yes	String	Explanation: Database user ID, that is, ID of a connection established between the database account and the database. A database user ID is created by calling the API in Registering a Database User . Constraints: N/A Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed. Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-54 Response body parameters

Parameter	Type	Description
innodb_trx	Array of InnoDBTrx objects	Explanation: Information about the current transaction that holds or waits for a lock Values: N/A
innodb_lock_waits	Array of InnoDBLock Waits objects	Explanation: Mapping between the lock requested by each transaction and the lock that blocks the request Values: N/A

Parameter	Type	Description
count	Integer	Explanation: Number of transactions that currently hold or wait for locks Values: [0, 2 ³¹ -1]. The actual value depends on the query result.

Table 4-55 InnodbTrx

Parameter	Type	Description
trx_id	String	Explanation: Transaction ID Values: N/A
trx_state	String	Explanation: Transaction status Values: N/A
trx_started	String	Explanation: Time when a transaction was started Values: N/A
trx_wait_start ed	String	Explanation: Transaction ID Values: N/A
trx_mysql_thr ead_id	String	Explanation: Session ID, same as the ID returned by the ListProcesses API Values: N/A
trx_query	String	Explanation: SQL statement executed by a transaction Values: N/A

Parameter	Type	Description
trx_tables_locked	String	Explanation: Number of tables with row locks Values: N/A
trx_rows_locked	String	Explanation: Number of locked rows (approximate value) Values: N/A
trx_rows_modified	String	Explanation: Number of rows inserted or modified by a transaction Values: N/A
trx_isolation_level	String	Explanation: Isolation level Values: N/A
innodb_wait_locks	Array of InnoDBLock objects	Explanation: Information about lock waits Values: N/A
innodb_hold_locks	Array of InnoDBLock objects	Explanation: Information about held locks Values: N/A

Table 4-56 InnoDBLock

Parameter	Type	Description
lock_id	String	Explanation: Lock ID Values: N/A

Parameter	Type	Description
lock_trx_id	String	Explanation: Transaction ID Values: N/A
lock_mode	String	Explanation: Lock mode Values: • S[,GAP] • X[,GAP] • IS[,GAP] • IX[,GAP] • AUTO_INC • UNKNOWN
lock_type	String	Explanation: Lock type Values: • RECORD: row lock • TABLE: table lock
lock_table	String	Explanation: Locked table Values: N/A
lock_index	String	Explanation: Index that has been locked if lock_type is RECORD . If lock_type is Table , null is returned. Values: N/A
lock_space	String	Explanation: Index that has been locked if lock_type is RECORD . If lock_type is Table , null is returned. Values: N/A

Parameter	Type	Description
lock_page	String	Explanation: Page number of the locked record if lock_type is RECORD . If lock_type is Table , null is returned. Values: N/A
lock_rec	String	Explanation: Heap number of the locked record if lock_type is RECORD . If lock_type is Table , null is returned. Values: N/A
lock_data	String	Explanation: Primary key locked by a transaction. If lock_type is Table , null is returned. Values: N/A

Table 4-57 InnodbLockWaits

Parameter	Type	Description
requesting_trx_id	String	Explanation: ID of a transaction that requests the lock Values: N/A
requested_lock_id	String	Explanation: ID of a requested lock Values: N/A
blocking_trx_id	String	Explanation: ID of a blocked transaction Values: N/A
blocking_lock_id	String	Explanation: ID of a blocked lock Values: N/A

Example Request

Querying InnoDB lock waits

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/innodb-locks?db_user_id=2c250598-1e3c-4d31-bc19-be1d866247e6
```

Example Responses

Status code: 200

```
{
  "innodb_trx": [ {
    "trx_id": "1080883393",
    "trx_state": "LOCK WAIT",
    "trx_started": "2021-01-14 18:49:26",
    "trx_wait_started": "2021-01-14 18:49:26",
    "trx_mysql_thread_id": "115602",
    "trx_query": "DELETE FROM adfasdf WHERE id =1",
    "trx_tables_locked": "1",
    "trx_rows_locked": "1",
    "trx_rows_modified": "0",
    "trx_isolation_level": "REPEATABLE READ",
    "innodb_wait_locks": [ {
      "lock_id": "1080883393:27750:3:2",
      "lock_trx_id": "1080883393",
      "lock_mode": "X",
      "lock_type": "RECORD",
      "lock_table": "`abc`.`adfasdf`",
      "lock_index": "GEN_CLUST_INDEX",
      "lock_space": "27750",
      "lock_page": "3",
      "lock_rec": "2",
      "lock_data": "0x0000005528EC"
    } ],
    "innodb_hold_locks": [ ]
  }, {
    "trx_id": "1080882971",
    "trx_state": "LOCK WAIT",
    "trx_started": "2021-01-14 18:49:25",
    "trx_wait_started": "2021-01-14 18:49:25",
    "trx_mysql_thread_id": "115598",
    "trx_query": "DELETE FROM adfasdf WHERE id =1",
    "trx_tables_locked": "1",
    "trx_rows_locked": "1",
    "trx_rows_modified": "0",
    "trx_isolation_level": "REPEATABLE READ",
    "innodb_wait_locks": [ ],
    "innodb_hold_locks": [ {
      "lock_id": "1080882971:27750:3:2",
      "lock_trx_id": "1080882971",
      "lock_mode": "X",
      "lock_type": "RECORD",
      "lock_table": "`abc`.`adfasdf`",
      "lock_index": "GEN_CLUST_INDEX",
      "lock_space": "27750",
      "lock_page": "3",
      "lock_rec": "2",
      "lock_data": "0x0000005528EC"
    } ]
  } ],
  "innodb_lock_waits": [ {
    "requesting_trx_id": "1080883393",
    "requested_lock_id": "1080883393:27750:3:2",
    "blocking_trx_id": "1080882971",
    "blocking_lock_id": "1080882971:27750:3:2"
  } ],
}
```

```
"count" : 2  
}
```

Status Code

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Code

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

4.2.15 Querying Instance Distribution

Function

This API is used to query instance distribution.

URI

GET /v3/{project_id}/instances/distribution

Table 4-58 URI parameter

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

Table 4-59 Query parameter

Parameter	Mandatory	Type	Description
datastore_type	No	String	Explanation: Database type Constraints: N/A Values: - MySQL - TaurusDB - PostgreSQL - Microsoft SQL Server Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-60 Response body parameters

Parameter	Type	Description
total	Integer	Explanation: Total number Values: [0, 2^31-1]
engine_distribution	Array of Table 4-61 objects	Explanation: Engine distribution Values: N/A

Table 4-61 engine_distribution

Parameter	Type	Description
datastore_type	String	Explanation: Database type Values: N/A
total	Integer	Explanation: Total number Values: [0,2 ³¹ -1]
instance_infos	Array of Table 4-62 objects	Explanation: Instance information Values: N/A

Table 4-62 engine_distribution.instance_infos

Parameter	Type	Description
status	String	Explanation: Instance status Values: N/A
num	Integer	Explanation: Number of instances Values: [0, 2 ³¹ -1]

Example Request

```
"GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/distribution?datastore_type=postgresql"
```

Example Response

Status code: 200

Successful request

```
{  
  "total": 1,  
  "engine_distribution": [  
    {  
      "datastore_type": "PostgreSQL",
```

```
{
  "total": 1,
  "instance_infos": [
    {
      "status": "OTHERS",
      "num": 1
    },
    {
      "status": "FAILED",
      "num": 0
    },
    {
      "status": "STORAGE_FULL",
      "num": 0
    }
  ]
}
```

Status Codes

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Codes

See [Error Codes](#).

4.2.16 Obtaining Data of a Single Metric on Multiple Nodes

Function

This API is used to obtain data of a single metric on multiple nodes.

URI

POST /v3/{project_id}/multi-nodes/single-metric

Table 4-63 URI parameter

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

Request Parameters

Table 4-64 Request body parameters

Parameter	Mandatory	Type	Description
metric_name	Yes	String	Explanation: Metric name Constraints: N/A Values: Table 4-47 Default value: N/A
start_at	Yes	Long	Explanation: Start time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
end_at	Yes	Long	Explanation: End time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
instance_infos	Yes	Array of Table 4-65 objects	Explanation: Instance information list Constraints: N/A Values: N/A Default value: N/A

Table 4-65 instance_infos

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: - MySQL - TaurusDB - PostgreSQL - Microsoft SQL Server Default value: N/A

Parameter	Mandatory	Type	Description
node_infos	Yes	Array of Table 4-66 objects	Explanation: Node list Constraints: N/A Values: N/A Default value: N/A

Table 4-66 node_infos

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
node_ids	Yes	Array of strings	Explanation: Node ID list Constraints: Multiple values need to be separated by commas (,). Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Response Parameters

Status code: 200

Table 4-67 Response body parameters

Parameter	Type	Description
metric_name	String	Explanation: Metric name Values: N/A
unit	String	Explanation: Unit Values: N/A
metrics	Array of Table 4-68 objects	Explanation: Metric Values: N/A

Table 4-68 metrics

Parameter	Type	Description
instance_id	String	Explanation: Instance ID Values: The value can contain 32 characters. Only letters and digits are allowed.
node_id	String	Explanation: Node ID Values: The value can contain 32 characters. Only letters and digits are allowed.
series	Array of double	Explanation: Metric Values: N/A
timestamps	Array of long	Explanation: Timestamp Values: N/A

Example Request

```
"POST https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/multi-nodes/
single-metric"
{
  "metric_name": "mem_usage",
  "start_at": 1736402167049,
  "end_at": 1736403967049,
  "instance_infos": [
    {
      "datastore_type": "mysql",
      "node_infos": [
        {
          "instance_id": "5c59fa7d6f09456b947f32922f9aeda1in01",
          "node_ids": [
            "09ab88b8a12340569ac056af284011d9no01"
          ]
        }
      ]
    }
  ]
}
```

Example Response

Status code: 200

Successful request

```
{ "metric_name": "mem_usage",
  "unit": "%",
  "metrics": [
    {
      "instance_id": "5c59fa7d6f09456b947f32922f9aeda1in01",
      "node_id": "09ab88b8a12340569ac056af284011d9no01",
      "series": [
        54.2,
        54.18,
        54.13,
        54.1,
        54.13,
        54.15,
        54.2,
        54.17,
        54.13,
        54.18,
        54.17,
        54.27,
        54.15,
        54.1,
        54.2,
        54.2,
        54.22,
        54.17,
        54.15,
        54.17,
        54.18,
        54.17,
        54.2,
        54.18,
        54.23,
        54.17,
        54.13,
        54.1
      ],
      "timestamps": [
        1736402220,
        1736402280,
        1736402340,

```

```
1736402400,  
1736402460,  
1736402520,  
1736402580,  
1736402640,  
1736402700,  
1736402760,  
1736402820,  
1736402880,  
1736402940,  
1736403000,  
1736403060,  
1736403120,  
1736403180,  
1736403240,  
1736403300,  
1736403360,  
1736403420,  
1736403480,  
1736403540,  
1736403600,  
1736403660,  
1736403720,  
1736403780,  
1736403840  
]  
}  
]  
}
```

Status Codes

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Codes

See [Error Codes](#).

4.2.17 Obtaining Information About a Single Instance Node

Function

This API is used to obtain information about a single instance node.

URI

GET /v3/{project_id}/instance/nodes-info

Table 4-69 URI parameter

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

Table 4-70 Query parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: • MySQL • TaurusDB • PostgreSQL • Microsoft SQL Server Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-71 Response body parameters

Parameter	Type	Description
instance_id	String	Explanation: Instance ID Values: The value can contain 32 characters. Only letters and digits are allowed.
instance_name	String	Explanation: Instance name Values: N/A
instance_nodes	Array of Table 4-72 objects	Explanation: Instance node list Values: N/A

Table 4-72 instance_nodes

Parameter	Type	Description
id	String	Explanation: Node ID Values: The value can contain 32 characters. Only letters and digits are allowed.
name	String	Explanation: Node name Values: N/A
role	String	Explanation: Node role Values: N/A

Parameter	Type	Description
status	String	Explanation: Node status Values: • normal • abnormal
type	String	Explanation: Node type Values: N/A

Example Request

```
"GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instance/nodes-info?instance_id=5c59fa7d6f09456b947f32922f9aeda1in01&datastore_type=mysql"
```

Example Response

Status code: 200

Successful request

```
{
  "instance_id": "5c59fa7d6f09456b947f32922f9aeda1in01",
  "instance_name": "DAS-MYSQL-AT",
  "instance_nodes": [
    {
      "id": "09ab88b8a12340569ac056af284011d9no01",
      "name": "DAS-MYSQL-AT_node0",
      "role": "master",
      "status": "normal",
      "type": "master"
    }
  ]
}
```

Status Codes

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Codes

See [Error Codes](#).

4.2.18 Querying Top Slow SQL Statements of an Instance

Function

This API is used to query top slow SQL statements of an instance.

URI

GET /v3/{project_id}/instances/{instance_id}/top-slow-log

Table 4-73 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-74 Query parameters

Parameter	Mandatory	Type	Description
num	Yes	Integer	Explanation: Top <i>N</i> Constraints: N/A Values: [0, 2^31-1]. The actual value depends on the query result. Default value: N/A
start_at	Yes	Long	Explanation: Start time Constraints: Unix timestamp, in milliseconds Values: [0, 2^31-1]. The actual value depends on the query result. Default value: N/A
end_at	Yes	Long	Explanation: End time Constraints: Unix timestamp, in milliseconds Values: [0, 2^31-1]. The actual value depends on the query result. Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-75 Response body parameters

Parameter	Type	Description
top_execute_slow_logs	Array of Table 4-76 objects	Explanation: Execution times Values: N/A
top_avg_query_time_slow_logs	Array of Table 4-77 objects	Explanation: Average execution duration list Values: N/A
top_max_query_time_slow_logs	Array of Table 4-78 objects	Explanation: Maximum execution duration list Values: N/A
rows_examined_exceeding	Array of Table 4-79 objects	Explanation: List of percentage of returned rows to scanned rows Values: N/A

Table 4-76 top_execute_slow_logs

Parameter	Type	Description
template_id	String	Explanation: SQL template ID Values: N/A
template	String	Explanation: SQL template Values: N/A
databases	Array of strings	Explanation: Database name Values: N/A

Parameter	Type	Description
times	Long	Explanation: Execution times Values: N/A
avg_query_time	Double	Explanation: Average execution duration Values: N/A
max_query_time	Double	Explanation: Maximum execution duration Values: N/A
avg_rows_examined	Double	Explanation: Average rows scanned Values: N/A
sum_rows_examined	Double	Explanation: Total rows scanned Values: N/A
avg_rows_sent	Double	Explanation: Average rows returned Values: N/A

Table 4-77 top_avg_query_time_slow_logs

Parameter	Type	Description
template_id	String	Explanation: SQL template ID Values: N/A
template	String	Explanation: SQL template Values: N/A

Parameter	Type	Description
databases	Array of strings	Explanation: Database name Values: N/A
times	Long	Explanation: Execution times Values: N/A
avg_query_time	Double	Explanation: Average execution duration Values: N/A
max_query_time	Double	Explanation: Maximum execution duration Values: N/A
avg_rows_examined	Double	Explanation: Average rows scanned Values: N/A
sum_rows_examined	Double	Explanation: Total rows scanned Values: N/A
avg_rows_sent	Double	Explanation: Average rows returned Values: N/A

Table 4-78 top_max_query_time_slow_logs

Parameter	Type	Description
template_id	String	Explanation: SQL template ID Values: N/A

Parameter	Type	Description
template	String	Explanation: SQL template Values: N/A
databases	Array of strings	Explanation: Database name Values: N/A
times	Long	Explanation: Execution times Values: N/A
avg_query_time	Double	Explanation: Average execution duration Values: N/A
max_query_time	Double	Explanation: Maximum execution duration Values: N/A
avg_rows_examined	Double	Explanation: Average rows scanned Values: N/A
sum_rows_examined	Double	Explanation: Total rows scanned Values: N/A
avg_rows_sent	Double	Explanation: Average rows returned Values: N/A

Table 4-79 rows_examined_exceeding

Parameter	Type	Description
template_id	String	Explanation: SQL template ID Values: N/A
template	String	Explanation: SQL template Values: N/A
databases	Array of strings	Explanation: Database name Values: N/A
times	Long	Explanation: Execution times Values: N/A
avg_query_time	Double	Explanation: Average execution duration Values: N/A
max_query_time	Double	Explanation: Maximum execution duration Values: N/A
avg_rows_examined	Double	Explanation: Average rows scanned Values: N/A
sum_rows_examined	Double	Explanation: Total rows scanned Values: N/A

Parameter	Type	Description
avg_rows_sent	Double	Explanation: Average rows returned Values: N/A

Example Request

```
"GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/5c59fa7d6f09456b947f32922f9aeda1in01/top-slow-log?num=10&start_at=1736402167045&end_at=1736403967045"
```

Example Response

Status code: 200

Successful request

```
{
  "top_execute_slow_logs": [
    {
      "template_id": "1D7880577913B207",
      "template": "SELECT sleep(?);",
      "databases": [],
      "times": 21,
      "avg_query_time": 6.429124786740258,
      "max_query_time": 10,
      "avg_rows_examined": 0,
      "sum_rows_examined": 0,
      "avg_rows_sent": 1
    }
  ],
  "top_avg_query_time_slow_logs": [
    {
      "template_id": "1D7880577913B207",
      "template": "SELECT sleep(?);",
      "databases": [],
      "times": 21,
      "avg_query_time": 6.429124786740258,
      "max_query_time": 10,
      "avg_rows_examined": 0,
      "sum_rows_examined": 0,
      "avg_rows_sent": 1
    }
  ],
  "top_max_query_time_slow_logs": [
    {
      "template_id": "1D7880577913B207",
      "template": "SELECT sleep(?);",
      "databases": [],
      "times": 21,
      "avg_query_time": 6.429124786740258,
      "max_query_time": 10,
      "avg_rows_examined": 0,
      "sum_rows_examined": 0,
      "avg_rows_sent": 1
    }
  ],
  "rows_examined_exceeding": []
}
```

Status Codes

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Codes

See [Error Codes](#).

4.2.19 Enabling or Disabling Collect All Query Logs and Collect Slow Query Logs

Function

Collect All Query Logs can be enabled and disabled. After it is enabled, the instance performance loss rate is within 5% and DAS stores all SQL query logs for analysis. You can set the retention period of all query logs. They will be automatically deleted after the retention period expires. If you do not set the retention period, the logs are retained for seven days by default. **Collect Slow Query Logs** can be enabled and disabled. After this function is enabled, DAS stores slow query logs for analysis. You can set the retention period of slow query logs. After the retention period expires, the data is automatically deleted. If not specified, the data is retained for seven days. This function is available only for paid instances.

URI

POST /v3/{project_id}/instances/{instance_id}/sql/switch

Table 4-80 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

Table 4-81 Request body parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Explanation: Switch type Constraints: N/A Values: • DAS SQL Explorer: Collect All Query Logs • DAS Slow Query Log: Collect Slow Query Logs Default value: N/A
status	Yes	Integer	Explanation: Switch status Constraints: N/A Values: • 0: disabled • 1: enabled Default value: N/A
datastore_type	Yes	String	Explanation: Database type Constraints: Collect All Query Logs is available to MySQL and TaurusDB. Collect Slow Query Logs is available to MySQL, TaurusDB, and PostgreSQL. Values: • MySQL • TaurusDB • PostgreSQL Default value: N/A

Parameter	Mandatory	Type	Description
retention_days	No	Long	Explanation: SQL data retention period (days) Constraints: N/A Values: [1,30] Default value: 7 days

Response Parameters

Status code: 200

Table 4-82 Response body parameter

Parameter	Type	Description
status	String	Explanation: Switch status Values: • Enabled: The function is enabled. • Disabled: The function is disabled. • Switching: The status is being switched.

Example Request

Enabling **Collect All Query Logs**

```
POST https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/sql/switch
```

```
{
  "type" : "DAS SQL Explorer",
  "status" : 1,
  "datastore_type" : "MySQL",
  "retention_days" : 8
}
```

Example Response

Status code: 200

Response body

```
{
  "status" : "Enabled"
}
```

Status Codes

Status Code	Description
200	Response body.
400	Client error.
500	Server error.

Error Codes

See [Error Codes](#).

4.2.20 Enabling or Disabling Historical Transactions

Function

This API is used to enable or disable **Historical Transactions**, which is only available to RDS for MySQL and depends on **Collect Slow Query Logs** and **Collect All Query Logs**.

URI

POST /v3/{project_id}/instances/{instance_id}/transaction/switch

Table 4-83 URI parameters

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

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

Table 4-84 Request body parameters

Parameter	Mandatory	Type	Description
switch_status	Yes	String	Explanation: Switch status Constraints: N/A Values: • 0: disabled • 1: enabled Default value: N/A
datastore_type	Yes	String	Explanation: Database type Constraints: Only RDS for MySQL is supported. Values: • MySQL Default value: N/A

Response Parameters

Status code: 200

Table 4-85 Response body parameter

Parameter	Type	Description
switch_status	String	Explanation: Switch status Values: • Enabled: The function is enabled. • Disabled: The function is disabled. • Switching: The status is being switched.

Example Request

Enabling **Collect All Query Logs**

```
POST https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/sql/switch"POST https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/d871e13ee1044e21a473330cd67047cbin01/transaction/switch"
```

```
{
  "switch_status": "Enabled",
  "datastore_type": "MySQL"
}
```

Example Response

Status code: 200

Response body

```
{
  "switch_status" : "Enabled"
}
```

Status Codes

Status Code	Description
200	Response body
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.21 Querying Whether Collect All Query Logs and Collect Slow Query Logs Are Enabled

Function

This API is used to query whether **Collect All Query Logs** and **Collect Slow Query Logs** are enabled. This function is available only for paid instances.

URI

GET /v3/{project_id}/instances/{instance_id}/sql/switch

Table 4-86 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-87 Query parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Explanation: Switch type Constraints: N/A Values: • DAS SQL Explorer: Collect All Query Logs • DAS Slow Query Log: Collect Slow Query Logs Default value: N/A
datastore_type	Yes	String	Explanation: Database type Constraints: Collect All Query Logs is available to MySQL and TaurusDB. Collect Slow Query Logs is available to MySQL, TaurusDB, and PostgreSQL. Values: • MySQL • TaurusDB • PostgreSQL Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-88 Response body parameters

Parameter	Type	Description
status	String	Explanation: Switch status Values: • Enabled: The function is enabled. • Disabled: The function is disabled. • Switching: The status is being switched.
retention_days	Long	Explanation: Days for storing SQL data Values: [1,30]

Example Request

Querying whether Slow Query Log is enabled

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/sql/switch?type=DAS Slow Query Log&datastore_type=MySQL
```

Example Response

Status code: 200

DAS status response body

```
{
  "status": "Enabled",
  "retention_days": 7
}
```

Status Codes

Status Code	Description
200	DAS status response body.
400	Client error.
500	Server error.

Error Codes

See [Error Codes](#).

4.2.22 Exporting Slow Query Logs

Function

- After **Collect Slow Query Logs** is enabled, you can export the slow query logs within a specified period all at once. The data can be obtained by page.
- For free instances, you can only view data generated in the last hour.

URI

GET /v3/{project_id}/instances/{instance_id}/slow-query-logs

Table 4-89 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-90 Query parameters

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: - MySQL - TaurusDB - PostgreSQL Default value: N/A
start_at	Yes	Long	Explanation: Start time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
end_at	Yes	Long	Explanation: End time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
limit	Yes	Integer	Explanation: Records on each page Constraints: N/A Values: [0, 2000]. The actual value depends on the query result. Default value: N/A
marker	No	String	Explanation: Query result marker. When the first page is obtained, no value needs to be assigned to this parameter. When the next page is obtained, the returned value of the first page query result is used. Constraints: N/A Values: N/A Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-91 Response body parameters

Parameter	Type	Description
slow_logs	Array of slow log objects	Explanation: Slow query logs. If the set is empty, all slow query logs have been exported. Values: N/A

Parameter	Type	Description
next_marker	String	Explanation: Marker required for obtaining the next page. This parameter is valid only within 3 minutes. Values: N/A

Table 4-92 SlowLog

Parameter	Type	Description
sql	String	Explanation: SQL statement Values: N/A
sql_template_id	String	Explanation: SQL template ID Values: N/A
database	String	Explanation: Database name Values: N/A
client	String	Explanation: Client Values: N/A
user	String	Explanation: User Values: N/A
execute_at	Long	Explanation: Execution start time in the Unix timestamp format, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result.

Parameter	Type	Description
query_time	Double	Explanation: Duration (s) Values: N/A
lock_time	Double	Explanation: Lock wait time (s) Values: N/A
rows_examined	Long	Explanation: Number of scanned rows Values: [0, 2 ³¹ -1]. The actual value depends on the query result.
rows_sent	Long	Explanation: Returned rows Values: [0, 2 ³¹ -1]. The actual value depends on the query result.

Example Request

Exporting slow query logs

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/slow-query-logs?start_at=1611975464337&end_at=1611979064337&limit=10&marker=DXF1ZXJ5QW5kRmV0Y2gBAAAAAAQh8YwSEffM3FyOXZRNzJQOTVlNHNBOTQ2UQ==&datastore_type=MySQL
```

Example Response

Status code: 200

Response body for exporting slow query logs

```
{
  "slow_logs": [ {
    "execute_at": 1612343898000,
    "sql": "SELECT sleep(10)\nLIMIT 0, 50;",
    "sql_template_id": "AAD913807ECE9C66",
    "database": "123",
    "client": "[100.79.0.248]",
    "user": "root[root]",
    "query_time": 10.000158309936523,
    "lock_time": 0,
    "rows_examined": 0,
    "rows_sent": 1
  } ],
  "next_marker": "DXF1ZXJ5QW5kRmV0Y2gBAAAAAAAJr48WZERxYkx5Q2VRQS1LSXRrRWt0VEN1QQ=="
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.23 Exporting Slow Query Log Statistics

Function

This API is used to export slow query log statistics after **Collect Slow Query Logs** is enabled.

URI

POST /v3/{project_id}/instances/{instance_id}/slow-sql-statistics

Table 4-93 URI parameters

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

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

Table 4-94 Request body parameters

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: DDS-Community Default value: N/A
start_at	Yes	Long	Explanation: Start time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
end_at	Yes	Long	Explanation: End time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
node_ids	No	Array of strings	Explanation: Node ID list Constraints: Multiple values need to be separated by commas (,). Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
statistics_field	No	String	Explanation: Statistics field Constraints: N/A Values: • node_id • sql_type • db_name • collection • user • client Default value: node_id

Parameter	Mandatory	Type	Description
offset	No	Integer	Explanation: Index offset. The query starts from the next piece of data indexed by this parameter. If this parameter is set to 1 and limit is set to 10 , only the second to eleventh records are displayed. Constraints: N/A Values: [0, 2 ³¹ -1] Default value: 0 : The query starts from the first data record.
limit	No	Integer	Explanation: Records on each page Constraints: N/A Values: [1, 100] Default value: 20

Response Parameters

Status code: 200

Table 4-95 Response body parameters

Parameter	Type	Description
statistics_list	Array of Table 4-96 objects	Explanation: Slow SQL statement statistics Values: N/A
total_count	Integer	Explanation: Total number Values: [0, 2 ³¹ -1]

Table 4-96 SlowSqlStatistics

Parameter	Type	Description
execute_count	Long	Explanation: Execution times Values: N/A
avg_execute_time	Double	Explanation: Average execution duration (s) Values: N/A
max_execute_time	Double	Explanation: Maximum execution duration (s) Values: N/A
avg_lock_wait_time	Double	Explanation: Average lock wait time (s) Values: N/A
max_lock_wait_time	Double	Explanation: Maximum lock wait time (s) Values: N/A
avg_rows_sent	Double	Explanation: Average number of returned documents Values: N/A
max_rows_sent	Double	Explanation: Maximum number of returned documents Values: N/A
avg_rows_examined	Double	Explanation: Average number of scanned documents Values: N/A

Parameter	Type	Description
max_rows_examined	Double	Explanation: Maximum number of scanned documents Values: N/A
avg_key_examined	Double	Explanation: Average number of scanned indexes Values: N/A
max_key_examined	Double	Explanation: Maximum number of scanned indexes Values: N/A
node_id	String	Explanation: Node ID, which is assigned when statistics_field is set to node_id Values: N/A
node_name	String	Explanation: Node name, which is assigned when statistics_field is set to node_id Values: N/A
sql_type	String	Explanation: Statement type, which is assigned when statistics_field is set to sql_type Values: N/A
db_name	String	Explanation: Database name, which is assigned when statistics_field is set to db_name or collection Values: N/A
collection	String	Explanation: Database table, which is assigned when statistics_field is set to collection Values: N/A

Parameter	Type	Description
user	String	Explanation: Username, which is assigned when statistics_field is set to user Values: N/A
client	String	Explanation: Client, which is assigned when statistics_field is set to client Values: N/A

Example Request

Exporting slow query logs

```
"POST https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/6243b3fcf2f948578d46ed4c52fb54eein02/slow-sql-statistics"
```

Example Response

Status code: 200

Successful request

```
{ "statistics_list": [  
  {  
    "execute_count": 6,  
    "avg_execute_time": 5.000509315066868,  
    "max_execute_time": 5.008123874664307,  
    "avg_lock_wait_time": 1,  
    "max_lock_wait_time": 1,  
    "avg_rows_sent": 1,  
    "max_rows_sent": 1,  
    "avg_rows_examined": 0,  
    "max_rows_examined": 0,  
    "avg_key_examined": 0,  
    "max_key_examined": 0,  
    "node_id": "fec05693c76c4f389561051db430324cno02",  
    "node_name": "dds-1234_node_1"  
  }  
],  
  "total_count": 1  
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error

Status Code	Description
500	Server error

Error Codes

See [Error Codes](#).

4.2.24 Exporting All Query Logs

Function

After **Collect All Query Logs** is enabled, you can export all query logs within a specified period. The data can be obtained by page. This function is available only for paid instances.

URI

GET /v3/{project_id}/instances/{instance_id}/sql-statements

Table 4-97 URI parameters

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

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-98 Query parameters

Parameter	Mandatory	Type	Description
start_at	Yes	Long	Explanation: Start time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
end_at	Yes	Long	Explanation: End time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
limit	Yes	Integer	Explanation: Records on each page Constraints: N/A Values: [0, 2000]. The actual value depends on the query result. Default value: N/A
marker	No	String	Explanation: Query result marker. When the first page is obtained, no value needs to be assigned to this parameter. When the next page is obtained, the returned value of the first page query result is used. Constraints: N/A Values: N/A Default value: N/A
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: - MySQL - TaurusDB Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-99 Response body parameters

Parameter	Type	Description
statements	Array of FullSql objects	Explanation: All query logs. If the set is empty, all query logs have been exported. Values: N/A
next_marker	String	Explanation: Marker required for obtaining the next page. This parameter is valid only within 3 minutes. Values: N/A

Table 4-100 FullSql

Parameter	Type	Description
sql	String	Explanation: SQL statement Values: N/A
operate_type	String	Explanation: Operation type Values: N/A
status	String	Explanation: Status Values: N/A
error_no	String	Explanation: Error code Values: N/A
database	String	Explanation: Database name Values: N/A

Parameter	Type	Description
client	String	Explanation: Client Values: N/A
thread_id	String	Explanation: Thread ID Values: N/A
user	String	Explanation: User Values: N/A
execute_at	Long	Explanation: Execution start time in the Unix timestamp format, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result.
query_time	Double	Explanation: Execution duration, in milliseconds Values: N/A
lock_time	Double	Explanation: Lock wait time (ms) Values: N/A
rows_examined	Long	Explanation: Number of scanned rows Values: [0, 2 ³¹ -1]. The actual value depends on the query result.
rows_sent	Long	Explanation: Returned rows Values: [0, 2 ³¹ -1]. The actual value depends on the query result.

Parameter	Type	Description
rows_affected	Long	Explanation: Updated rows Values: [0, 2 ³¹ -1]. The actual value depends on the query result.

Example Request

Exporting all query logs

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/sql-statements?start_at=1611975464337&end_at=1611979064337&limit=10&marker=DXF1ZXJ5QW5kRmV0Y2gBAAAAAAQH8YWSEFFM3FyOXZRNzJQOTVlNHNBOTQ2UQ==&datastore_type=MySQL
```

Example Response

Status code: 200

Response body for exporting all query logs

```
{
  "statements": [ {
    "sql": "SELECT 1",
    "operate_type": "select",
    "status": "success",
    "error_no": "",
    "database": "",
    "thread_id": "11481954",
    "client": "100.79.3.154",
    "user": "root",
    "execute_at": 1612403000100,
    "query_time": 0,
    "lock_time": 0,
    "rows_examined": 0,
    "rows_sent": 1,
    "rows_affected": 0
  } ],
  "next_marker": "DXF1ZXJ5QW5kRmV0Y2gBAAAAAASG3cWcHVpdktBU1lTbjJMM2tmYXYxZ09nUQ=="
}
```

Status Codes

Status Code	Description
200	Response body for exporting all SQL statements.
400	Client error.
500	Server error.

Error Codes

See [Error Codes](#).

4.2.25 Exporting Top Risky Instances

Function

This API is used to export top risky instances. You can view data in the last 24 hours.

URI

GET /v3/{project_id}/instances/top-risk

Table 4-101 URI parameter

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

Table 4-102 Query parameters

Parameter	Mandatory	Type	Description
start_at	Yes	Long	Explanation: Start time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
end_at	Yes	Long	Explanation: End time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: • MySQL • TaurusDB • PostgreSQL • Microsoft SQL Server Default value: N/A

Parameter	Mandatory	Type	Description
num	No	Integer	Explanation: Returned top risky instances Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
metric_code	No	String	Explanation: Metric code Constraints: N/A Values: N/A Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-103 Response body parameters

Parameter	Type	Description
top_risk_info	Array of Table 4-104 objects	Explanation: Risky instances Values: N/A
total_count	Integer	Explanation: Total number Values: [0, 2 ³¹ -1]

Table 4-104 top_risk_info

Parameter	Type	Description
instance_id	String	Explanation: Instance ID Values: N/A
instance_name	String	Explanation: Instance name Values: N/A
node_id	String	Explanation: Node ID Values: N/A
metric_names	Array of strings	Explanation: Metric name Values: N/A
metric_values	Array of double	Explanation: Metric value (%) Values: [0%, 100%]

Example Request

Exporting top risky instances

"GET https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/top-risk"

Example Response

Status code: 200

Successful request

```
{ "top_risk_info": [  
  {  
    "instance_id": "bcfa975193f1402fa11a6d4fd6baf5fbin01",  
    "instance_name": "rds-sql-Do not delete 1",  
    "node_id": "1a6bf163753d4c9b925b7d402c001a2eno01",  
    "metric_names": [],  
    "metric_values": []  
  },  
  {  
    "instance_id": "3d180b532b6146eb91ec48ba4267b765in01",  
    "instance_name": "rds-acc1",
```

```
{
  "node_id": "fd340a4c1d9046ffb5c7e8c2b939e34ano01",
  "metric_names": [],
  "metric_values": []
},
"total_count": 2
}
```

Status Codes

Status Code	Description
200	Response body for exporting all query logs
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.26 Exporting Details About All Query Logs

Function

After **Collect All Query Logs** is enabled, you can create a SQL Insight task to export details by node, username, database, and operation type. This function is available only for paid instances.

URI

GET /v3/{project_id}/instances/{instance_id}/full-sql-search

Table 4-105 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-106 Query parameters

Parameter	Mandatory	Type	Description
start_at	Yes	Long	Explanation: Start time in the Unix timestamp format, in milliseconds Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
end_at	Yes	Long	Explanation: End time in the Unix timestamp format, in milliseconds Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
task_ids	No	Array of long	Explanation: SQL Insight task IDs. SQL Insight tasks that span more than one day will be split for parsing. Multiple tasks can be filtered and exported at the same time. Constraints: Multiple values need to be separated by commas (,). Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
node_id	No	String	Explanation: Node ID Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Parameter	Mandatory	Type	Description
keyword	No	String	Explanation: Keyword Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A
fuzzy	No	String	Explanation: Whether fuzzy match is used Constraints: N/A Values: N/A Default value: N/A
user_list	No	String	Explanation: Username Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A
db_list	No	String	Explanation: Database Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A

Parameter	Mandatory	Type	Description
operation_list	No	String	Explanation: Operation type Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A
client_ip_list	No	String	Explanation: Client IP address Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A
thread_id_list	No	String	Explanation: Thread ID Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A
trx_id_list	No	String	Explanation: Transaction ID Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A

Parameter	Mandatory	Type	Description
session_id_list	No	String	Explanation: Session ID Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A
status_list	No	String	Explanation: Execution status Constraints: Multiple values need to be separated by commas (,). Values: • 0: successful • 1: failed Default value: N/A
sql_template_ids	No	String	Explanation: SQL template ID Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A
cost_min	No	Double	Explanation: Minimum execution duration, in milliseconds Constraints: N/A Values: N/A Default value: N/A

Parameter	Mandatory	Type	Description
cost_max	No	Double	Explanation: Maximum execution duration, in milliseconds Constraints: N/A Values: N/A Default value: N/A
scan_min	No	Long	Explanation: Minimum rows scanned Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
scan_max	No	Long	Explanation: Maximum rows scanned Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
affect_min	No	Long	Explanation: Minimum rows affected Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
affect_max	No	Long	Explanation: Maximum rows affected Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
return_min	No	Long	Explanation: Minimum rows returned Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
return_max	No	Long	Explanation: Maximum rows returned Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
sort_field	No	String	Explanation: Sorting field Constraints: N/A Values: • execute_at: execution time • execute_cost: execution duration • lock_wait_time: lock wait time • rows_examined: scanned rows • rows_returned: returned rows Default value: N/A
asc	No	Boolean	Explanation: Sorting order Constraints: N/A Values: • true: ascending • false: descending Default value: N/A
page	No	Integer	Explanation: Page number Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
limit	No	Integer	Explanation: Records on each page Constraints: N/A Values: [0, 100]. The actual value depends on the query result. Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-107 Response body parameters

Parameter	Type	Description
full_sql_details	Array of Table 4-108 objects	Explanation: Details about all SQL statements Values: N/A
total	Integer	Explanation: Total number Values: N/A

Table 4-108 full_sql_details

Parameter	Type	Description
sql	String	Explanation: SQL statement Values: N/A

Parameter	Type	Description
sql_template_id	String	Explanation: SQL template ID Values: N/A
operate_type	String	Explanation: Operation type Values: N/A
status	String	Explanation: Status Values: N/A
error_no	String	Explanation: Error code Values: N/A
database	String	Explanation: Database Values: N/A
thread_id	String	Explanation: Thread ID Values: N/A
client	String	Explanation: Client Values: N/A
user	String	Explanation: User Values: N/A

Parameter	Type	Description
execute_at	Long	Explanation: Execution start time in the Unix timestamp format, in milliseconds Values: N/A
query_time	Double	Explanation: Execution duration, in milliseconds Values: N/A
lock_time	Double	Explanation: Lock wait time (ms) Values: N/A
rows_examined	Long	Explanation: Number of scanned rows Values: N/A
rows_sent	Long	Explanation: Returned rows Values: N/A
rows_affected	Long	Explanation: Updated rows Values: N/A
trx_id	Long	Explanation: Transaction ID Values: N/A
cpu_time	Double	Explanation: CPU time (μ s) Values: N/A

Parameter	Type	Description
send_bytes	Long	Explanation: Output bytes Values: N/A
query_tables	String	Explanation: All table names in the format of <i>Database name.Table name</i> <i>Database name.Table name</i> Values: N/A
innodb_io_read_bytes	Long	Explanation: Physical I/O read bytes Values: N/A
innodb_io_read	Integer	Explanation: Physical I/O reads Values: N/A
innodb_io_read_wait	Double	Explanation: Physical I/O wait time, in milliseconds Values: N/A
innodb_lock_wait	Double	Explanation: Row lock wait time, in milliseconds Values: N/A
innodb_queue_wait	Double	Explanation: InnoDB lock wait time, in milliseconds Values: N/A
kernel_version	String	Explanation: Kernel version for DDM instances Values: N/A

Parameter	Type	Description
query_time_detail	String	Explanation: Time required at each phase during SQL statement execution. This parameter is used by DDM instances. Values: N/A
session_id	String	Explanation: Session ID Values: N/A
node_id	String	Explanation: Node ID Values: The value can contain 32 characters. Only letters and digits are allowed.

Example Request

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/full-sql-search?start_at=1738733117000&end_at=1738808281000&task_ids=1128
```

Example Response

Status code: 200

```
{
  "full_sql_details": [
    {
      "sql": "select sleep(90)",
      "sql_template_id": "AAD913807ECE9C66",
      "operate_type": "select",
      "status": "success",
      "error_no": "",
      "database": "test_db",
      "thread_id": "5866666",
      "client": "100.79.3.154",
      "user": "root",
      "execute_at": 1738808280958,
      "query_time": 90000,
      "lock_time": 0,
      "rows_examined": 0,
      "rows_sent": 1,
      "rows_affected": 0,
      "trx_id": 0,
      "cpu_time": 0,
      "node_id": "fec05693c76c4f389561051db430324cno01"
    }
  ],
  "total": 1036
}
```

Status Codes

Status Code	Description
200	Details about all SQL statements are exported.
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.27 Querying Whether SQL Throttling Is Enabled

Function

This API is used to query whether SQL throttling is enabled. Currently, this function is supported only for RDS for MySQL instances.

URI

GET /v3/{project_id}/instances/{instance_id}/sql-limit/switch

Table 4-109 URI parameters

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

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-110 Query parameter

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: MySQL Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-111 Response body parameter

Parameter	Type	Description
switch_status	String	Explanation: Switch status Values: - ON - OFF

Example Request

Querying whether SQL throttling is enabled

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/6243b3fcf2f948578d46ed4c52fb54eein01/sql-limit/switch?datastore_type=MySQL
```

Example Responses

Status code: 200

Successful request

```
{
  "switch_status" : "ON"
}
```

Status Code

Status Code	Description
200	Successful request
400	Client error.
500	Server error.

Error Code

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

4.2.28 Enabling or Disabling SQL Throttling

Function

This API is used to enable or disable SQL throttling. Currently, this function is supported only for MySQL databases.

URI

POST /v3/{project_id}/instances/{instance_id}/sql-limit/switch

Table 4-112 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

None

Table 4-113 Request body parameters

Parameter	Mandatory	Type	Description
switch_status	Yes	String	Explanation: Switch status Values: - ON - OFF

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Values: MySQL

Response Parameters

Status code: 200

Table 4-114 Response body parameter

Parameter	Type	Description
job_id	String	Explanation: ID of a SQL throttling task Values: N/A

Example Request

Enabling SQL throttling

```
POST https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/6243b3fcf2f948578d46ed4c52fb54eein01/sql-limit/switch
```

```
{
  "datastore_type": "MySQL",
  "switch_status": "ON"
}
```

Example Responses

Status code: 200

Successful request

```
{
  "job_id": "15535"
}
```

Status Code

Status Code	Description
200	Successful request
400	Client error.

Status Code	Description
500	Server error.

Error Code

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

4.2.29 Querying SQL Throttling Rules

Function

This API is used to query SQL throttling rules. Currently, this function is supported only for MySQL databases.

URI

GET /v3/{project_id}/instances/{instance_id}/sql-limit/rules

Table 4-115 URI parameters

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

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-116 Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Explanation: Offset. The query starts from the next piece of data indexed by this parameter. Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: 0: The query starts from the first data record.
limit	No	Integer	Explanation: Number of records to be queried Constraints: N/A Values: [1, 100] Default value: 100
datastore_type	Yes	String	Explanation: Database type Values: MySQL

Request Parameters

None

Response Parameters

Status code: 200

Table 4-117 Response body parameters

Parameter	Type	Description
sql_limit_rules	Array of SqlLimitRule objects	Explanation: SQL throttling rules Values: N/A
total_count	Integer	Explanation: Total number of SQL throttling rules Values: [0, 2 ³¹ -1]. The actual value depends on the query result.

Table 4-118 SqlLimitRule

Parameter	Type	Description
id	String	Explanation: ID of a SQL throttling rule Values: N/A
sql_type	String	Explanation: SQL type Values: N/A
pattern	String	Explanation: Throttling rule Values: N/A

Parameter	Type	Description
max_concurrency	Integer	Explanation: Maximum number of concurrent SQL statements Values: N/A
max_waiting	Integer	Explanation: Maximum waiting time Values: N/A

Example Request

Querying SQL throttling rules

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/d871e13ee1044e21a473330cd67047cbin01/sql-limit/rules?datastore_type=MySQL&offset=0&limit=10
```

Example Responses

Status code: 200

Successful request

```
{
  "sql_limit_rules": [ {
    "id": "6",
    "sql_type": "SELECT",
    "max_concurrency": 1,
    "pattern": "select~var~where~id"
  }, {
    "id": "7",
    "sql_type": "UPDATE",
    "max_concurrency": 10,
    "pattern": "update~table01~where~id"
  } ],
  "total_count": 2
}
```

Status Code

Status Code	Description
200	Successful request
400	Client error.
500	Server error.

Error Code

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

4.2.30 Querying Top Slow SQL Statements

Function

This API is used to query top slow SQL statements.

URI

GET /v3/{project_id}/instances/top-slow-log

Table 4-119 URI parameter

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

Table 4-120 Query parameters

Parameter	Mandatory	Type	Description
num	Yes	Integer	Explanation: Top <i>N</i> Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
start_at	Yes	Long	Explanation: Start time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
end_at	Yes	Long	Explanation: End time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-121 Response body parameter

Parameter	Type	Description
top_slow_log_list	Array of Table 4-122 objects	Explanation: Top slow SQL statements Values: N/A

Table 4-122 top_slow_log_list

Parameter	Type	Description
instance_id	String	Explanation: Instance ID Values: N/A
instance_name	String	Explanation: Instance name Values: N/A
slow_log_num	Long	Explanation: Number of slow query logs Values: [0, 2^31-1]

Example Request

```
"GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/top-slow-log?num=10&start_at=1736402167045&end_at=1736403967045"
```

Example Response

Status code: 200
Successful request

```
{
  "top_slow_log_list": [
    {
      "instance_id": "5c59fa7d6f09456b947f32922f9aeda1in01",
      "instance_name": "DAS-MYSQL-AT",
      "slow_log_num": 21
    }
  ]
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.31 Querying Historical Transactions

Function

- This API is used to query historical transactions.
- Currently, this API is only available to RDS for MySQL. Only historical transactions in the last seven days can be viewed.

URI

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

Table 4-123 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-124 Query parameters

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: Only RDS for MySQL is supported. Default value: N/A
start_at	Yes	Long	Explanation: Collection start time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
end_at	Yes	Long	Explanation: Collection end time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
page_num	No	Integer	Explanation: Number of pages Constraints: N/A Values: [1, 2 ³¹ -1] Default value: N/A

Parameter	Mandatory	Type	Description
page_size	No	Integer	Explanation: Page size Constraints: N/A Values: 5, 10, 20, and 50 Default value: N/A
order	No	String	Explanation: Sorting field Constraints: N/A Values: N/A Default value: N/A
order_by	No	String	Explanation: Sorting order, which can be ascending or descending Constraints: N/A Values: - asc - desc Default value: N/A
last_sec_min	No	Long	Explanation: Minimum duration Constraints: N/A Values: N/A Default value: N/A

Parameter	Mandatory	Type	Description
last_sec_max	No	Long	Explanation: Maximum duration Constraints: N/A Values: N/A Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-125 Response body parameters

Parameter	Type	Description
total	Integer	Explanation: Total number of historical transactions Values: [0, 2 ³¹ -1]
transaction_info_list	Array of Table 4-126 objects	Explanation: Historical transaction information Values: N/A

Table 4-126 transaction_info_list

Parameter	Type	Description
last_sec	Integer	Explanation: Transaction duration Values: N/A

Parameter	Type	Description
wait_locks	Integer	Explanation: Number of wait locks Values: N/A
hold_locks	Integer	Explanation: Number of held locks Values: N/A
occurrence_time	Integer	Explanation: Occurrence time Values: N/A
detail	String	Explanation: Transaction content Values: N/A
collect_time	Long	Explanation: Collection time Values: N/A

Example Request

Querying historical transactions

```
"GET https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/a77c88dcfd404a64a466ca2cd2f5b8e5in01/transaction?datastore_type=MySQL&start_at=1&end_at=1717399020000"
```

Example Response

Status code: 200

Successful request

```
{
  "total": 1,
  "transaction_info_list": [
    {
      "collect_time": 1717398965000,
      "last_sec": 5,
      "wait_locks": 3,
      "hold_locks": 3,
      "occurrence_time": 1717398965000,
      "detail": "MySQL thread id 17485282, OS thread handle 140455451772672, query id 48549222 xxx root
updating\ndelete from dead_lock_test where v1 = 5 and v2 = 5\n*** HOLDS THE LOCK:\nRECORD LOCKS
```

```
space id 34691 page no 3 n bits 80 index PRIMARY of table `at_cloud_dba_001`.`dead_lock_test` trx id
690888 lock_mode X locks rec but not gap\nRecord lock, heap no 7 PHYSICAL RECORD: n_fields 5; compact
format; info bits 0\n"
  }
]
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.32 Checking Whether Historical Transactions Is Enabled

Function

- This API is used to check whether **Historical Transactions** is enabled.
- Currently, this function is only available to RDS for MySQL.

URI

GET /v3/{project_id}/instances/{instance_id}/transaction/switch

Table 4-127 URI parameters

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

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-128 Query parameter

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Values: Only RDS for MySQL is supported.

Request Parameters

None

Response Parameters

Status code: 200

Table 4-129 Response body parameter

Parameter	Type	Description
switch_status	String	Explanation: Switch status Values: • Enabled: The function is enabled. • Disabled: The function is disabled. • Switching: The status is being switched.

Example Request

Querying whether **Historical Transaction** is enabled

```
"GET https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/a77c88dcfd404a64a466ca2cd2f5b8e5in01/transaction/switch?datastore_type=MySQL"
```

Example Response

Status code: 200

Successful request

```
{  
  "switch_status": "Enabled"  
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.33 Generating Keywords of a SQL Throttling Rule Based On the Original SQL Statement

Function

This API is used to generate keywords of a SQL throttling rule based on the original SQL statement. Currently, MySQL, MariaDB, and TaurusDB are supported.

Precautions

The SQL throttling keywords generated based on the original SQL statement are for reference only. When creating a SQL throttling rule, compare the original SQL statement with the SQL throttling keywords.

URI

POST /v3/{project_id}/instances/{instance_id}/sql-limit/parse

Table 4-130 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

Table 4-131 Request body parameters

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Constraints: Currently, only MySQL, MariaDB, and TaurusDB are supported. Values: • MySQL • MariaDB • TaurusDB Default value: N/A
original_sql	Yes	String	Explanation: Original SQL statement Constraints: Enter a valid SQL statement. Values: Minimum length: 1 character Maximum length: 1024 characters Default value: N/A
use_template	Yes	Boolean	Explanation: Whether SQL statements need to be verified Constraints: N/A Values: • true • false Default value: N/A

Parameter	Mandatory	Type	Description
keep_operators	Yes	Boolean	Explanation: Whether operators need to be retained Constraints: N/A Values: • true • false Default value: N/A

Response Parameters

Status code: 200

Table 4-132 Response body parameter

Parameter	Type	Description
rule	String	Explanation: SQL throttling keyword Values: N/A

Example Request

Generating Keywords of a SQL throttling rule based on the original SQL statement

```
https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/da304cd5bbb944de828759bc7be3d3fein01/sql-limit/parse
```

```
{
  "datastore_type": "MySQL",
  "original_sql": "select * from das_conn_info",
  "use_template": true,
  "keep_operators": true
}
```

Example Response

Status code: 200

The generated keywords are returned.

```
{
  "rule": "select~from~das_conn_info"
}
```

Status Codes

Status Code	Description
200	The generated keywords are returned.

Error Codes

See [Error Codes](#).

4.2.34 Creating a SQL Throttling Rule

Function

This API is used to create a SQL throttling rule. Currently, this function is supported only for MySQL databases. The restrictions are as follows:

- Keywords are separated by a tilde (~), for example, **select~a**. A throttling rule will be applied to SQL statements containing keywords **select** and **a**.
- If a SQL statement matches multiple rules, only the latest rule is applied.
- Keywords of a throttling rule are sorted in a specific order, and the system will match them from first to last. For example, if one rule contains the keyword **a~and~b**, the system only matches **xxx a>1 and b>2**.
- Generated keywords may be case-sensitive. Execute **show variables like 'rds_sqlfilter_case_sensitive'** or go to the console to check parameter settings for specifying case-sensitivity.
- Throttling rules can only be added for primary instances.
- System catalogs are not restricted, queries which do not involve data are not restricted, and the **root** user is not restricted in specific versions.

URI

POST /v3/{project_id}/instances/{instance_id}/sql-limit/rules

Table 4-133 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

Table 4-134 Request body parameters

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: MySQL Default value: N/A

Parameter	Mandatory	Type	Description
sql_limit_rules	Yes	Array of CreateSqlLimitRuleOption objects	Explanation: SQL throttling rules to be created. A maximum of 5 rules can be created at a time. Constraints: N/A Values: N/A Default value: N/A
database_name	No	String	Explanation: Database name Constraints: Only MySQL databases are supported. Values: N/A Default value: N/A

Table 4-135 CreateSqlLimitRuleOption

Parameter	Mandatory	Type	Description
sql_type	Yes	String	Explanation: SQL type Constraints: N/A Values: • SELECT • UPDATE • DELETE Default value: N/A

Parameter	Mandatory	Type	Description
max_concurrency	Yes	Integer	Explanation: Maximum concurrent SQL statements Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
pattern	Yes	String	Explanation: SQL throttling rule Constraints: Keywords are separated by a tilde (~), for example, select~a . The throttling rule will be applied to SQL statements containing keywords select and a . Values: N/A Default value: N/A
max_waiting	No	Integer	Explanation: Maximum waiting time Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
his_sql_limit_switch	No	Boolean	Explanation: Whether historical SQL throttling rules are enabled Constraints: - This parameter takes effect only for the current SQL throttling rule. - When this parameter is set to ON, existing sessions that match the SQL throttling rule will be killed. Values: - true - false Default value: N/A

Response Parameters

Status code: 200

None

Example Request

Creating a SQL throttling rule

POST https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/d871e13ee1044e21a473330cd67047cbin01/sql-limit/rules

```
{
  "sql_limit_rules": [ {
    "sql_type": "SELECT",
    "pattern": "select~t2~var",
    "max_concurrency": 100
  }, {
    "sql_type": "DELETE",
    "pattern": "delete~t1~name",
    "max_concurrency": 1
  } ],
  "datastore_type": "MySQL"
}
```

Example Responses

None

Status Code

Status Code	Description
200	Successful request
400	Client error.
500	Client error.

Error Code

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

4.2.35 Modifying a SQL Throttling Rule

Function

This API is used to modify a SQL throttling rule. Currently, this function is only available to RDS for PostgreSQL.

URI

PUT /v3/{project_id}/instances/{instance_id}/sql-limit/rules

Table 4-136 URI parameters

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

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

Table 4-137 Request body parameters

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: PostgreSQL Default value: N/A
sql_limit_rule_ids	Yes	Array of strings	Explanation: ID of a SQL throttling rule Constraints: N/A Values: N/A Default value: N/A

Parameter	Mandatory	Type	Description
database_name	No	String	Explanation: Database name Constraints: Mandatory for RDS for PostgreSQL Values: N/A Default value: N/A
sql_limit_rule	Yes	Objects in Table 4-138	Explanation: SQL throttling rule to be modified Constraints: N/A Values: N/A Default value: N/A

Table 4-138 UpdateSqlLimitRuleOption

Parameter	Mandatory	Type	Description
max_concurrency	Yes	Integer	Explanation: Maximum concurrent SQL statements Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
max_waiting	No	Integer	Explanation: Maximum waiting time Constraints: N/A Values: [0, 2^31-1]. The actual value depends on the query result. Default value: N/A

Response Parameters

Status code: 200
None

Example Request

Creating a SQL throttling rule

```
PUT https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/d871e13ee1044e21a473330cd67047cbin01/sql-limit/rules
{
  "datastore_type": "postgresql",
  "database_name": "postgres",
  "sql_limit_rule_ids": [
    "1",
    "4"
  ],
  "sql_limit_rule": {
    "max_concurrency": 5,
    "max_waiting": 5
  }
}
```

Example Response

None

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Client error

Error Codes

See [Error Codes](#).

4.2.36 Deleting a SQL Throttling Rule

Function

This API is used to delete a SQL throttling rule. Currently, this function is supported only for MySQL databases.

URI

DELETE /v3/{project_id}/instances/{instance_id}/sql-limit/rules

Table 4-139 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

Table 4-140 Request body parameters

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: MySQL Default value: N/A
sql_limit_rule_ids	Yes	Array of strings	Explanation: ID of a SQL throttling rule Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A
database_name	No	String	Explanation: Database name Constraints: Only MySQL databases are supported. Values: N/A Default value: N/A

Response Parameters

Status code: 200

None

Example Request

Deleting a SQL throttling rule

```
DELETE https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/d871e13ee1044e21a473330cd67047cbin01/sql-limit/rules
```

```
{
  "datastore_type": "MySQL",
  "sql_limit_rule_ids": [ "6", "7" ]
}
```

Example Responses

None

Status Code

Status Code	Description
200	Successful request
400	Client error.
500	Server error.

Error Code

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

4.2.37 Querying a SQL Throttling Task

Function

This API is used to query the information about a SQL throttling task with a specified ID.

URI

GET /v3/{project_id}/instances/{instance_id}/sql-limit/job

Table 4-141 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-142 Query parameter

Parameter	Mandatory	Type	Description
job_id	Yes	String	Explanation: ID of a SQL throttling task Constraints: N/A Values: N/A Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-143 Response body parameters

Parameter	Type	Description
job_id	String	Explanation: Task ID Values: N/A
job_status	String	Explanation: Task status Values: • RUNNING • COMPLETED • FAILED
fail_reason	String	Explanation: Failure cause Values: N/A

Example Request

Querying a SQL throttling task

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/6243b3fcf2f948578d46ed4c52fb54eein01/sql-limit/job?job_id=15535
```

Example Responses

Status code: 200

Successful request

```
{
  "job_id": "15535",
  "job_status": "COMPLETED",
  "fail_reason": ""
}
```

Status Code

Status Code	Description
200	Successful request
400	Client error.
500	Server error.

Error Code

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

4.2.38 Exporting the Top SQL Template List

Function

This API is used to export the Top SQL template list after Top SQL is enabled. This function is available only for paid instances. The maximum query interval is one hour.

URI

GET /v3/{project_id}/instances/{instance_id}/top-sql-templates

Table 4-144 URI parameters

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

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-145 Query parameters

Parameter	Mandatory	Type	Description
start_at	Yes	Long	Explanation: Start time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
end_at	Yes	Long	Explanation: End time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: - MySQL - TaurusDB Default value: N/A
node_id	No	String	Explanation: Node ID Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
sort	No	String	Explanation: Sorting field Constraints: N/A Values: executeNum: execution times totalCost: total duration avgCost: average duration totalScan: total rows scanned avgScan: average rows scanned Default value: N/A

Parameter	Mandatory	Type	Description
asc	No	Boolean	Explanation: Sorting order Constraints: N/A Values: • true: ascending • false: descending Default value: • false
offset	No	Integer	Explanation: Index offset. The query starts from the next piece of data indexed by this parameter. If this parameter is set to 1 and limit is set to 10 , only the second to eleventh records are displayed. Constraints: N/A Values: [0, 2 ³¹ -1] Default value: 0: The query starts from the first data record.
limit	No	Integer	Explanation: Number of records to be queried. If this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints: N/A Values: [1, 100] Default value: 20

Request Parameters

None

Response Parameters

Status code: 200

Table 4-146 Response body parameters

Parameter	Type	Description
top_sql_templates	Array of TopSqlTemplate objects	Explanation: SQL templates. Values: N/A
total_count	Integer	Explanation: Total number of SQL templates Values: [0, 2 ³¹ -1]. The actual value depends on the query result.

Table 4-147 TopSqlTemplate

Parameter	Type	Description
sql_template	String	Explanation: SQL template ID Values: N/A
sql_sample_string	String	Explanation: SQL sample Values: N/A
sql_type	String	Explanation: SQL type Values: N/A
db_name	String	Explanation: Database name Values: N/A

Parameter	Type	Description
execute_num	Long	Explanation: Total executions Values: N/A
total_cost	Double	Explanation: Total duration (ms) Values: N/A
avg_cost	Double	Explanation: Average duration (ms) Values: N/A
avg_rows_sen t	Double	Explanation: Average rows returned Values: N/A
avg_rows_affe cted	Double	Explanation: Average rows affected Values: N/A
avg_lock_time	Double	Explanation: Average lock wait time (ms) Values: N/A
total_rows_ex amined	Double	Explanation: Total rows scanned Values: N/A
avg_rows_exa mined	Double	Explanation: Average rows scanned Values: N/A
total_cost_rati o	String	Explanation: Percentage of the total duration Values: N/A

Parameter	Type	Description
total_examined_ratio	String	Explanation: Percentage of scanned rows Values: N/A
execute_num_ratio	String	Explanation: Percentage of execution times Values: N/A

Example Request

Exporting the Top SQL template list

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/6243b3fcf2f948578d46ed4c52fb54eein01/top-sql-templates?start_at=1611975464337&end_at=1611979064337&node_id=fec05693c76c4f389561051db430324cno01&sort=avgCost&asc=true&datastore_type=MySQL&offset=0&limit=10
```

Example Response

Status code: 200

Successful request

```
{
  "top_sql_templates": [ {
    "db_name": "db_01",
    "execute_num": 30,
    "avg_rows_examined": 0,
    "total_cost_ratio": "100.00%",
    "avg_lock_time": 0,
    "sql_template": "SELECT sleep(?)",
    "avg_rows_affected": 0,
    "avg_rows_sent": 1,
    "avg_cost": 5000.266666666666,
    "execute_num_ratio": "23.81%",
    "total_examined_ratio": "-",
    "sql_type": "select",
    "total_cost": 150008,
    "total_rows_examined": 0,
    "sql_sample_string": "select sleep(5)"
  } ],
  "total_count": 1
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error

Status Code	Description
500	Server error

Error Codes

See [Error Codes](#).

4.2.39 Exporting SQL Execution Time Distribution

Function

This API is used to export the SQL execution duration after the TopSQL switch is turned on. This function is available only for paid instances. The maximum query interval is six hours.

URI

GET /v3/{project_id}/instances/{instance_id}/top-sql-trend

Table 4-148 URI parameters

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

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-149 Query parameters

Parameter	Mandatory	Type	Description
start_at	Yes	Long	Explanation: Start time in the Unix timestamp format, in milliseconds Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
end_at	Yes	Long	Explanation: End time in the Unix timestamp format, in milliseconds Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: - MySQL - TaurusDB Default value: N/A
node_id	No	String	Explanation: Node ID Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-150 Response body parameters

Parameter	Type	Description
interval_millis	Long	Explanation: Query interval Values: The interval is 10s if the query duration is within one hour, 60s if the query duration is within six hours, and 300s if the query duration is longer than six hours. The unit is millisecond.

Parameter	Type	Description
top_sql_trend_items	Array of TopSqlTrendItem objects	Explanation: SQL execution time distribution Values: N/A
total_count	Integer	Explanation: Total execution time ranges Values: N/A

Table 4-151 TopSqlTrendItem

Parameter	Type	Description
execute_at	Long	Explanation: Execution time, in milliseconds Values: The value ranges from execute_at - interval_millis to execute_at .
query_time_in_100ms	Long	Explanation: SQL statements executed within 100 ms Values: N/A
query_time_in_500ms	Long	Explanation: SQL statements that take 100 ms to 500 ms to execute Values: N/A
query_time_in_1s	Long	Explanation: SQL statements that take 500 ms to 1000 ms to execute Values: N/A
query_time_over_1s	Long	Execution duration more than 1000 ms. Explanation: SQL statements that take more than 1000 ms to execute Values: N/A

Example Request

Exporting SQL execution time distribution

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/6243b3fcf2f948578d46ed4c52fb54eein01/top-sql-trend?start_at=1611975464337&end_at=1611979064337&datastore_type=MySQL&node_id=fec05693c76c4f389561051db430324cno01
```

Example Response

Status code: 200

Successful request

```
{
  "top_sql_trend_items": [ {
    "execute_at": 1666702330000,
    "query_time_over_1s": 1,
    "query_time_in_100ms": 3,
    "query_time_in_1s": 0,
    "query_time_in_500ms": 0
  }, {
    "execute_at": 1666702340000,
    "query_time_over_1s": 2,
    "query_time_in_100ms": 2,
    "query_time_in_1s": 0,
    "query_time_in_500ms": 0
  } ],
  "interval_millis": 10000,
  "total_count": 2
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.40 Exporting the Slow SQL Template List

Function

- This API is used to export the slow SQL template list after **Collect Slow Query Logs** is enabled.
- For free instances, you can only view data generated in the last hour.
- The maximum query interval is one day.

URI

GET /v3/{project_id}/instances/{instance_id}/slow-sql-templates

Table 4-152 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-153 Query parameters

Parameter	Mandatory	Type	Description
start_at	Yes	Long	Explanation: Start time in the Unix timestamp format, in milliseconds Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
end_at	Yes	Long	Explanation: End time in the Unix timestamp format, in milliseconds Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: - MySQL - TaurusDB Default value: N/A

Parameter	Mandatory	Type	Description
db_name	No	String	Explanation: Database name Constraints: N/A Values: N/A Default value: N/A
offset	No	Integer	Explanation: Index offset. The query starts from the next piece of data indexed by this parameter. If this parameter is set to 1 and limit is set to 10 , only the second to eleventh records are displayed. Constraints: N/A Values: [0, 2 ³¹ -1] Default value: 0 : The query starts from the first data record.
limit	No	Integer	Explanation: Number of records to be queried. If this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints: N/A Values: [1, 100] Default value: 20

Request Parameters

None

Response Parameters

Status code: 200

Table 4-154 Response body parameters

Parameter	Type	Description
slow_sql_templates	Array of SlowSqlTemplate objects	Explanation: Slow query log templates Values: N/A
total_count	Integer	Explanation: Total number of slow query log templates Values: N/A

Table 4-155 SlowSqlTemplate

Parameter	Type	Description
sql_template	String	Explanation: SQL template Values: N/A
sql_template_id	String	Explanation: SQL template ID Values: N/A
sql_sample	String	Explanation: SQL sample Values: N/A
sql_sample_user	String	Explanation: User who executes a sample SQL statement Values: N/A
db_names	Array of strings	Explanation: Database name Values: N/A

Parameter	Type	Description
execute_count	Long	Explanation: Execution times Values: N/A
avg_execute_time	Double	Explanation: Average execution duration (ms) Values: N/A
max_execute_time	Double	Explanation: Maximum execution duration (ms) Values: N/A
avg_lock_wait_time	Double	Explanation: Average lock wait time (ms) Values: N/A
max_lock_wait_time	Double	Explanation: Maximum lock wait time (ms) Values: N/A
avg_rows_examined	Double	Explanation: Average rows scanned Values: N/A
max_rows_examined	Double	Explanation: Maximum rows scanned Values: N/A
avg_rows_sent	Double	Explanation: Average rows returned Values: N/A
max_rows_sent	Double	Explanation: Maximum rows returned Values: N/A

Example Request

Exporting the slow SQL template list

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/6243b3fcf2f948578d46ed4c52fb54eein01/slow-sql-templates?startAt=1611975464337&endAt=1611979064337&datastore_type=MySQL&db_name=db&offset=0&limit=10
```

Example Response

Status code: 200

Successful request

```
{
  "slow_sql_templates": [ {
    "max_rows_examined": 0,
    "max_lock_wait_time": 0,
    "avg_rows_examined": 0,
    "execute_count": 27,
    "avg_execute_time": 5.000509315066868,
    "max_execute_time": 5.008123874664307,
    "avg_lock_wait_time": 0,
    "sql_template": "SELECT sleep(?);",
    "sql_template_id": "1D7880577913B207",
    "sql_sample": "select sleep(5)",
    "avg_rows_sent": 1,
    "db_names": [ "db_01" ],
    "max_rows_sent": 1
  } ],
  "total_count": 1
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.41 Exporting the Quantity Trend of Slow Query Logs

Function

After Slow Query Logs is enabled, you can export the quantity trend of slow query logs. For free instances, you can only view data generated in the latest hour. The maximum query interval is one day.

URI

GET /v3/{project_id}/instances/{instance_id}/slow-sql-trend

Table 4-156 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-157 Query parameters

Parameter	Mandatory	Type	Description
start_at	Yes	Long	Explanation: Start time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
end_at	Yes	Long	Explanation: End time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: - MySQL - TaurusDB Default value: N/A

Parameter	Mandatory	Type	Description
node_id	No	String	Explanation: Node ID Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
offset	No	Integer	Explanation: Index offset. The query starts from the next piece of data indexed by this parameter. If this parameter is set to 1 and limit is set to 10 , only the second to eleventh records are displayed. Constraints: N/A Values: [0, 2 ³¹ -1] Default value: 0 : The query starts from the first data record.
limit	No	Integer	Explanation: Number of records to be queried. If this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints: N/A Values: [1, 100] Default value: 20

Request Parameters

None

Response Parameters

Status code: 200

Table 4-158 Response body parameters

Parameter	Type	Description
slow_sql_trend_items	Array of Table 4-159 objects	Explanation: Quantity trend of slow query logs Values: N/A
interval_millis	Long	Explanation: Query interval Values: The interval is 10s if the query duration is within one hour, 60s if the query duration is within six hours, and 300s if the query duration is longer than six hours. The unit is millisecond.
total_count	Integer	Explanation: Total execution time ranges Values: N/A

Table 4-159 slow_sql_trend_items

Parameter	Type	Description
timestamp	Long	Explanation: Timestamp in milliseconds Values: The value ranges from timestamp to timestamp + interval_millis .
slow_log_count	Long	Number of slow query logs Explanation: Number of slow query logs Values: N/A

Example Request

Exporting the quantity trend of slow query logs

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances/6243b3fcf2f948578d46ed4c52fb54eein01/slow-sql-trend?startAt=1719862675886&endAt=1719905875886&datastore_type=MySQL&offset=0&limit=10
```

Example Response

Status code: 200

Successful request

```
{
  "slow_sql_trend_items": [
    {
      "timestamp": 1719900000000,
      "slow_log_count": 10
    },
    {
      "timestamp": 1719903600000,
      "slow_log_count": 11
    }
  ],
  "interval_millis": 3600000,
  "total_count": 2
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.42 Viewing the Instance List on the Intelligent O&M Page

Function

This API is used to view the instance list on the **Intelligent O&M** page.

URI

GET /v3/{project_id}/instances

Table 4-160 URI parameter

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

Table 4-161 Query parameters

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: N/A Default value: N/A

Parameter	Mandatory	Type	Description
offset	No	Integer	Explanation: Index offset. The query starts from the next piece of data indexed by this parameter. If this parameter is set to 1 and limit is set to 10 , only the second to eleventh records are displayed. Constraints: N/A Values: [0, 5000] Default value: 0: The query starts from the first data record.
limit	No	Integer	Explanation: Number of records to be queried. If this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints: N/A Values: [0, 100] Default value: 20

Request Parameters

None

Response Parameters

Status code: 200

Table 4-162 Response body parameters

Parameter	Type	Description
instance_list	Array of Table 4-163	Explanation: Instance list Values: Array length: 0 to 200 characters

Parameter	Type	Description
total_count	Integer	Explanation: Total number Values: [0,10000]

Table 4-163 DASInstanceInfo

Parameter	Type	Description
instance_id	String	Explanation: Unique ID of an instance Values: The value can contain 32 characters. Only letters and digits are allowed.
instance_name	String	Explanation: Instance name Values: N/A
instance_status	String	Explanation: Instance status Values: N/A
version	String	Explanation: Instance version Values: N/A
engine_type	String	Explanation: Engine type Values: N/A
ip	String	Explanation: Client IP address Values: N/A

Parameter	Type	Description
port	Integer	Explanation: Client port number Values: N/A
cpu	Integer	Explanation: Number of CPU cores of an instance Values: N/A
mem	Integer	Explanation: Instance memory size Values: N/A
login_flag	Boolean	Explanation: Whether instance login is enabled Values: N/A
slow_sql_flag	Boolean	Explanation: Whether Collect Slow Query Logs is enabled Values: N/A
deadlock_flag	Boolean	Explanation: Whether deadlock analysis is enabled Values: N/A
lock_blocking_flag	Boolean	Explanation: Whether the blocking mode is enabled Values: N/A
charge_flag	Boolean	Explanation: Whether the current instance is billed Values: N/A

Parameter	Type	Description
full_sql_flag	Boolean	Explanation: Whether Collect All SQL Statements is enabled Values: N/A

Example Request

Viewing the instance list on the **Intelligent O&M** page

GET https://das.cn-north-1.myhuaweicloud.com/v3/054c630ff780d4cc2f40c00d7f6fb21d/instances

Example Response

```
{
  "instance_list" : [ {
    "instance_id" : "bcfa975193f1402fa11a6d4fd6baf5fbin01",
    "instance_name" : "rds-sql",
    "instance_status" : "ACTIVE",
    "version" : 5.7,
    "ip" : "192.168.0.84",
    "port" : 3306,
    "cpu" : 2,
    "mem" : 8,
    "login_flag" : true,
    "slow_sql_flag" : true,
    "deadlock_flag" : false,
    "lock_blocking_flag" : false,
    "charge_flag" : true,
    "full_sql_flag" : true
  } ],
  "total_count" : 2
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.43 Diagnosing SQL Statements

Function

This API is used to diagnose SQL statements.

URI

POST /v3/{project_id}/connections/{connection_id}/tuning/create-tuning

Table 4-164 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
connection_id	Yes	String	Explanation: Database user ID, that is, ID of a connection established between the database account and the database. A database user ID is created by calling the API in Registering a Database User . Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed.

Request Parameters

Table 4-165 Request body parameters

Parameter	Mandatory	Type	Description
database_name	Yes	String	Explanation: Database name Constraints: Only MySQL databases are supported. Values: N/A Default value: N/A
schema_name	No	String	Explanation: Schema name Constraints: Only MySQL databases are supported. Values: N/A Default value: N/A
sql_script	Yes	String	Explanation: SQL script Constraints: N/A Values: N/A Default value: N/A
node_type	No	String	Explanation: Node ID Constraints: N/A Values: N/A Default value: N/A

Parameter	Mandatory	Type	Description
node_id	No	String	Explanation: Node ID Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Response Parameters

Status code: 200

Table 4-166 Response body parameters

Parameter	Type	Description
message_id	Array of strings	Explanation: Diagnosis information ID Values: N/A
status	Boolean	Explanation: Status Values: N/A
quota_exceeded	Boolean	Explanation: Diagnosis quota status Values: N/A

Example Request

Diagnosing SQL statements

```
POST https://{{endpoint}}/v3/{{project_id}}/connections/{{connection_id}}/tuning/create-tuning
{
  "database_name": "string",
  "schema_name": "string",
  "sql_script": "string"
}
```

Example Responses

```
{
  "message_id": [
    "6507f5070cf2476b18473d9b"
  ],
  "status": true,
  "quota_exceeded": false
}
```

Status Code

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Code

See [Error Codes](#).

4.2.44 Obtaining Diagnosis Results

Function

This API is used to obtain SQL diagnosis results.

URI

GET /v3/{project_id}/connections/{connection_id}/tuning/{message_id}/show-tuning-result

Table 4-167 URI parameters

Parameter	Mandatory	Type	Description
message_id	Yes	String	Explanation: Diagnosis information ID To obtain the value, see Diagnosing SQL Statements . Constraints: N/A Values: The value can contain 24 characters. Only letters and digits are allowed. Default value: N/A
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
connection_id	Yes	String	Explanation: Database user ID, that is, ID of a connection established between the database account and the database. A database user ID is created by calling the API in Registering a Database User . Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed.

Request Parameters

None

Response Parameters

Status code: 200

Table 4-168 Response body parameters

Parameter	Type	Description
tune_result	AdviceResult object	Explanation: Diagnosis result Values: N/A

Table 4-169 AdviceResult

Parameter	Type	Description
message_id	String	Explanation: Diagnosis information ID Values: N/A
status_code	String	Explanation: Status code Values: N/A
error_code	String	Explanation: Error code Values: N/A
error_message	String	Explanation: Error message Values: N/A
index_advice	Array of IndexAdviceInfo objects	Explanation: Index suggestion Values: N/A

Parameter	Type	Description
tuning_advice	Array of strings	Explanation: Diagnosis suggestion Values: N/A
formatted_sql	String	Explanation: Formatted SQL statement Values: N/A
original_sql	String	Explanation: Original SQL statement Values: N/A
explain	Array of Explain objects	Explanation: Execution plan Values: N/A
tb_pos_infos	Array of TbPosInfo objects	Explanation: Table location Values: N/A
feedback_infos	FeedbackInfo objects	Explanation: Feedback Values: N/A

Table 4-170 IndexAdviceInfo

Parameter	Type	Description
schema_name	String	Explanation: Schema name Values: N/A
table_name	String	Explanation: Table name Values: N/A

Parameter	Type	Description
index_name	String	Explanation: Index name Values: N/A
columns	Array of strings	Explanation: Column Values: N/A
unique	Boolean	Explanation: Whether the value is unique Values: N/A
track_id	String	Explanation: Tracking ID Values: N/A
quality	Object	Explanation: Quality Values: N/A
ddl_add_index	String	Explanation: Index to be added for a DDL Values: N/A

Table 4-171 Explain

Parameter	Type	Description
id	Integer	Explanation: Type of the SELECT clause Values: N/A
select_type	String	Explanation: Type of the SELECT clause. Values: N/A

Parameter	Type	Description
table	String	Explanation: Table JOIN sequence selected by the SQL optimizer Values: N/A
type	String	Explanation: Access type of a row in a table (The access types are sorted in the following order: null > system > const > eq_ref > ref > range > index > all) Values: N/A
possible_keys	String	Explanation: Index that helps efficiently locate rows Values: N/A
key	String	Explanation: Index actually used by SQL Optimizer to minimize query costs Values: N/A
key_len	String	Explanation: Length (bytes) of an index in the key column Values: N/A
ref	String	Explanation: Column or constant for querying data using an index in the key column Values: N/A
rows	Long	Explanation: Length (bytes) of an index in the key column Values: N/A

Parameter	Type	Description
filtered	Double	Explanation: Percentage of remaining values after data is scanned at the engine layer and filtered based on WHERE Values: N/A
extra	String	Explanation: Additional information about SQL parsing • If using index is displayed, the SQL statement uses overwrite indexes and performs well. • If using filesort, using temporary, or using where is displayed, the query needs to be optimized. Values: N/A

Table 4-172 TbPosInfo

Parameter	Type	Description
origin_name	String	Explanation: Original name Values: N/A
name	String	Explanation: Name Values: N/A
start	Integer	Explanation: Start Values: N/A
end	Integer	Explanation: End Values: N/A

Table 4-173 FeedbackInfo

Parameter	Type	Description
id	String	Explanation: ID Values: N/A
project_id	String	Explanation: Project ID Values: N/A
message_id	String	Explanation: Unique ID of a task message Values: N/A
feedback_grade	String	Explanation: Feedback level Values: N/A
feedback_content	String	Explanation: Feedback content Values: N/A
gmt_created	Long	Explanation: Creation time Values: N/A
gmt_modified	Long	Explanation: Modification time Values: N/A

Example Request

None

Example Response

```
{
  "tune_result": {
    "message_id": "6507f5070cf2476b18473d9b",
```

```
{
  "status_code": "0000",
  "error_message": "Success",
  "formatted_sql": "SELECT *\nFROM test_tb",
  "original_sql": "select * from test_tb",
  "tuning_advice": [
    "The outermost SELECT statement does not have a WHERE condition specified, which could result in more rows being returned than anticipated."
  ],
  "explain": [{
    "id": 1,
    "select_type": "SIMPLE",
    "type": "ALL",
    "rows": 100512,
    "filtered": 100
  }],
  "tb_pos_infos": [{
    "origin_name": "test_tb",
    "name": "test_tb",
    "start": 14,
    "end": 21
  }],
  "feedback_infos": {}
}
```

Status Code

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Code

See [Error Codes](#).

4.2.45 Creating an Instance Diagnosis Task

Function

This API is used to create an instance diagnosis task.

URI

POST /v3/{project_id}/instances/{instance_id}/create-instance-health-report-task

Table 4-174 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

Table 4-175 Request body parameters

Parameter	Mandatory	Type	Description
start_at	Yes	Long	Explanation: Start time in the Unix timestamp format, in milliseconds Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
end_at	Yes	Long	Explanation: End time in the Unix timestamp format, in milliseconds Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Response Parameters

Status code: 200

Table 4-176 Response body parameters

Parameter	Type	Description
create_success	Boolean	Explanation: Whether the diagnosis task is successfully created Values: N/A

Example Request

Creating an instance diagnosis task

```
POST https://das.cn-north-7.myhuaweicloud.com/v3/052041494800d57c2f02c00275b4c247/instances/bcfa975193f1402fa11a6d4fd6baf5fbin01/create-instance-health-report-task
```

```
{
  "start_at" : 1728103093329,
  "end_at" : 1729103093329
}
```

Example Response

Status code: 200

Successful request

```
{
  "create_success" : true
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.46 Querying Instance Diagnosis Reports

Function

This API is used to query instance diagnosis reports.

URI

GET /v3/{project_id}/instances/{instance_id}/get-instance-health-report-task-list

Table 4-177 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-178 Query parameters

Parameter	Mandatory	Type	Description
start_at	Yes	Long	Explanation: Start time in the Unix timestamp format, in milliseconds Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
end_at	Yes	Long	Explanation: End time in the Unix timestamp format, in milliseconds Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
offset	No	Integer	Explanation: Index offset. The query starts from the next piece of data indexed by this parameter. If this parameter is set to 1 and limit is set to 10 , only the second to eleventh records are displayed. Constraints: N/A Values: [0, 2 ³¹ -1] Default value: 0 : The query starts from the first data record.
limit	No	Integer	Explanation: Records on each page Constraints: N/A Values: [0, 200]. The actual value depends on the query result. Default value: 10

Request Parameters

None

Response Parameters

Status code: 200

Table 4-179 Response body parameters

Parameter	Type	Description
total	Long	Explanation: Number of diagnosis reports Values: N/A
health_report_task_list	Array of Table 4-180 objects	Explanation: Diagnosis reports Values: N/A

Table 4-180 HealthReportTask

Parameter	Type	Description
task_id	String	Explanation: Report ID Values: N/A
instance_id	String	Explanation: Instance ID Values: N/A
create_at	Long	Explanation: Creation time in the Unix timestamp format, in milliseconds Values: N/A
report_status	String	Explanation: Diagnosis status Values: N/A

Parameter	Type	Description
risk_count	Integer	Explanation: Number of risks Values: N/A
origin	String	Explanation: Trigger source Values: N/A
start_at	Long	Explanation: Diagnosis start time (in Unix timestamp format) in a daily report, in milliseconds Values: N/A
end_at	Long	Explanation: Diagnosis end time (in Unix timestamp format) in a daily report, in milliseconds Values: N/A

Example Request

Querying instance diagnosis reports

```
GET https://das.cn-north-7.myhuaweicloud.com/v3/052041494800d57c2f02c00275b4c247/instances/bcfa975193f1402fa11a6d4fd6baf5fbin01/get-instance-health-report-task-list?start_at=1727177896507&end_at=1728871794805
```

Example Response

Status code: 200

Successful request

```
{
  "health_report_task_list": [ {
    "instance_id": "bcfa975193f1402fa11a6d4fd6baf5fbin01",
    "task_id": "8aa02bb1-ca4a-4724-ad3b-00993d6e08e0",
    "create_at": 1727200803179,
    "report_status": "SUCCESS",
    "risk_count": 1,
    "origin": "SYSTEM",
    "start_at": 1727064000211,
    "end_at": 1727150400211
  } ],
  "total": 22
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.47 Obtaining an Instance Diagnosis Report

Function

This API is used to obtain an instance diagnosis report.

URI

GET /v3/{project_id}/instances/{instance_id}/get-instance-health-report

Table 4-181 URI parameters

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

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-182 Query parameters

Parameter	Mandatory	Type	Description
task_id	Yes	String	Explanation: Task ID Constraints: N/A Values: N/A Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-183 Response body parameters

Parameter	Type	Description
success	Boolean	Explanation: Whether the diagnosis in a daily report is successful Values: N/A

Parameter	Type	Description
start_at	Long	Explanation: Diagnosis start time (in Unix timestamp format) in a daily report, in milliseconds Values: N/A
end_at	Long	Explanation: Diagnosis end time (in Unix timestamp format) in a daily report, in milliseconds Values: N/A
task_id	String	Explanation: Report ID Values: N/A
summary_info	Objects in Table 4-184	Explanation: Daily report abstract Values: N/A
instance_info	Table 4-188 object	Explanation: Instance information list Values: N/A
performance_stat	Table 4-189 object	Explanation: Performance statistics and analysis list Values: N/A
disk_stat	Table 4-190 object	Explanation: Disk statistics and analysis list Values: N/A
table_space_stat	Table 4-193 object	Explanation: Tablespace statistics and analysis list Values: N/A

Parameter	Type	Description
slow_log_stat	Table 4-196 object	Explanation: Statistics and analysis list of slow query logs Values: N/A
full_sql_stat	Table 4-197 object	Explanation: Statistics and analysis list of all query logs Values: N/A
inspection_stat	Table 4-199 object	Explanation: Statistics and analysis list of preventive maintenance inspection scores Values: N/A
error_message	String	Explanation: Error message Values: N/A

Table 4-184 HealthReportSummaryInfo

Parameter	Type	Description
analysis_results	Array of Table 4-185 objects	Explanation: Analysis results Values: N/A

Table 4-185 HealthReportAnalysisResult

Parameter	Type	Description
risk_code	String	Explanation: Risk code Values: N/A

Parameter	Type	Description
risk_level	String	Explanation: Risk level Values: N/A
risk_content	String	Explanation: Risk content Values: N/A
reasons	Array of Table 4-186 objects	Explanation: Possible causes Values: N/A

Table 4-186 HealthReportRiskReason

Parameter	Type	Description
reason_code	String	Explanation: Possible cause code Values: N/A
reason_content	String	Explanation: Possible cause Values: N/A
suggestions	Array of Table 4-187 objects	Explanation: Suggestions Values: N/A

Table 4-187 HealthReportRiskSuggestion

Parameter	Type	Description
suggestion_code	String	Explanation: Suggestion codes Values: N/A

Parameter	Type	Description
suggestion_content	String	Explanation: Suggestions Values: N/A

Table 4-188 HealthReportInstanceInfo

Parameter	Type	Description
tenant_id	String	Explanation: Account ID Values: N/A
project_id	String	Explanation: Project ID Values: N/A
instance_id	String	Explanation: Instance ID Values: N/A
master_node_id	String	Explanation: Primary node ID Values: N/A
instance_name	String	Explanation: Instance name Values: N/A
cpu	Integer	Explanation: Number of CPU cores of an instance Values: N/A
mem	Integer	Explanation: Instance memory size Values: N/A

Parameter	Type	Description
disk_size	Integer	Explanation: Disk size Values: N/A
disk_type	String	Explanation: Disk type Values: N/A
engine	String	Explanation: DB engine Values: N/A
engine_version	String	Explanation: DB engine kernel version Values: N/A

Table 4-189 HealthReportPerformanceStat

Parameter	Type	Description
peak_stats	Array of Table 4-191 objects	Explanation: Peak statistics Values: N/A
ratio_stats	Array of Table 4-192 objects	Explanation: Ratio data Values: N/A
analyze_success	Boolean	Explanation: Whether analytical and statistical data is collected Values: N/A

Parameter	Type	Description
error_message	String	Explanation: Error message Values: N/A

Table 4-190 HealthReportDiskStat

Parameter	Type	Description
peak_stats	Array of Table 4-191 objects	Explanation: Peak statistics Values: N/A
ratio_stats	Array of Table 4-192 objects	Explanation: Ratio data Values: N/A
analyze_success	Boolean	Explanation: Whether analytical and statistical data is collected Values: N/A
error_message	String	Explanation: Error message Values: N/A

Table 4-191 HealthReportSingleValueStat

Parameter	Type	Description
metric	String	Explanation: Metric name Values: N/A

Parameter	Type	Description
value	Double	Explanation: Value Values: N/A
max_value	Double	Explanation: Maximum value Values: N/A
normalized	Double	Explanation: Normalized value Values: N/A
stage	String	Explanation: Current status Values: N/A
timestamp	Long	Explanation: Metric collection time Values: N/A

Table 4-192 HealthReportRatioStat

Parameter	Type	Description
metric	String	Explanation: Metric name Values: N/A
max_value	Double	Explanation: Maximum value Values: N/A
critical_ratio	Double	Explanation: Critical ratio Values: N/A

Parameter	Type	Description
medium_ratio	Double	Explanation: Medium ratio Values: N/A
light_ratio	Double	Explanation: Light ratio Values: N/A

Table 4-193 HealthReportTableSpaceStat

Parameter	Type	Description
size_top	Array of Table 4-194 objects	Explanation: Top tables in size Values: N/A
rows_top	Array of Table 4-194 objects	Explanation: Top table rows Values: N/A
size_incr_top	Array of Table 4-195 objects	Explanation: Top tables in size with the highest growth rate Values: N/A
rows_incr_top	Array of Table 4-195 objects	Explanation: Top rows with the highest growth rate Values: N/A
analyze_success	Boolean	Explanation: Whether analytical and statistical data is collected Values: N/A

Parameter	Type	Description
error_message	String	Explanation: Error message Values: N/A

Table 4-194 HealthReportTableSpaceInfo

Parameter	Type	Description
database	String	Explanation: Database name Values: N/A
table	String	Explanation: Table name Values: N/A
db_engine	String	Explanation: DB engine Values: N/A
table_size	Long	Explanation: Table size Values: N/A
data_size	Long	Explanation: Data size Values: N/A
index_size	Long	Explanation: Index size Values: N/A
rows	Long	Explanation: Number of rows Values: N/A

Table 4-195 HealthReportTableSpaceIncrInfo

Parameter	Type	Description
database	String	Explanation: Database name Values: N/A
table	String	Explanation: Table name Values: N/A
increment	Long	Explanation: Increment Values: N/A
analyze_success	Boolean	Explanation: Whether analytical and statistical data is collected Values: N/A
error_message	String	Explanation: Error message Values: N/A

Table 4-196 HealthReportSlowLogStat

Parameter	Type	Description
collect_slow_log	Boolean	Explanation: Whether slow query logs are collected Values: N/A
top_execute_slow_logs	Array of Table 4-198 objects	Explanation: Top slow SQL queries executed Values: N/A

Parameter	Type	Description
top_avg_query_time_slow_logs	Array of Table 4-198 objects	Explanation: Top slow SQL queries taking average time Values: N/A
top_max_query_time_slow_logs	Array of Table 4-198 objects	Explanation: Top slow SQL queries taking longest Values: N/A
rows_examined_exceeding	Array of Table 4-198 objects	Explanation: Top slow SQL queries which return rows Values: N/A
analyze_success	Boolean	Explanation: Whether analytical and statistical data is collected Values: N/A
error_message	String	Explanation: Error message Values: N/A

Table 4-197 HealthReportFullSqlStat

Parameter	Type	Description
collect_full_sql	Boolean	Explanation: Whether all query logs are collected Values: N/A
execute_top_templates	Array of Table 4-198 objects	Explanation: Top SQL queries executed Values: N/A

Parameter	Type	Description
sum_rows_examined_top_templates	Array of Table 4-198 objects	Explanation: Top rows scanned for all SQL queries Values: N/A
avg_cost_top_templates	Array of Table 4-198 objects	Explanation: Top average execution durations of all SQL queries Values: N/A
analyze_success	Boolean	Explanation: Whether analytical and statistical data is collected Values: N/A
error_message	String	Explanation: Error message Values: N/A

Table 4-198 HealthReportSqlTemplate

Parameter	Type	Description
template_id	String	Explanation: Template ID Values: N/A
template	String	Explanation: Template content Values: N/A
databases	Array of strings	Explanation: Database list Values: N/A

Parameter	Type	Description
times	Long	Explanation: Execution times Values: N/A
avg_query_time	Double	Explanation: Average execution duration Values: N/A
max_query_time	Double	Explanation: Maximum execution duration Values: N/A
avg_rows_examined	Double	Explanation: Average rows scanned Values: N/A
max_rows_examined	Double	Explanation: Maximum rows scanned Values: N/A
sum_rows_examined	Double	Explanation: Total rows scanned Values: N/A
avg_rows_sent	Double	Explanation: Average rows returned Values: N/A
max_rows_sent	Double	Explanation: Maximum rows returned Values: N/A

Table 4-199 HealthReportInspectionStat

Parameter	Type	Description
inspection_score	Array of Table 4-200 objects	Explanation: Inspection score Values: N/A
analyze_success	Boolean	Explanation: Whether analytical and statistical data is collected Values: N/A
error_message	String	Explanation: Error message Values: N/A

Table 4-200 HealthReportInspectionScore

Parameter	Type	Description
score	Double	Explanation: Score Values: N/A
critical	Integer	Explanation: Major event Values: N/A
medium	Integer	Explanation: Warning Values: N/A
light	Integer	Explanation: Optimization Values: N/A

Parameter	Type	Description
cpu_usage	Double	Explanation: CPU usage Values: N/A
mem_usage	Double	Explanation: Memory usage Values: N/A
space_usage	Double	Explanation: Space usage Values: N/A
connection_rate	Double	Explanation: Connection usage Values: N/A
iops_usage	Double	Explanation: IOPS usage Values: N/A
thread_running	Double	Explanation: Active session Values: N/A
slow_sql_total	Long	Explanation: Number of slow query logs Values: N/A
lost_points_detail_list	Array of Table 4-201 objects	Explanation: Score deduction details Values: N/A

Table 4-201 HealthReportLostPointsDetail

Parameter	Type	Description
metric	String	Explanation: Score deduction item Values: N/A
lost_points	Double	Explanation: Deducted score Values: N/A
risk_level	String	Explanation: Event level Values: N/A

Example Request

Obtaining an instance diagnosis report

```
GET https://das.cn-north-7.myhuaweicloud.com/v3/052041494800d57c2f02c00275b4c247/instances/bcfa975193f1402fa11a6d4fd6baf5fbin01/get-instance-health-report?task_id=bb252ed0-3d06-489a-a662-6609e054e91c
```

Example Response

Status code: 200

Successful request

```
{
  "success": true,
  "summary_info": {
    "analysis_results": [ {
      "risk_code": "SLOW_LOG_ISSUE",
      "risk_level": "WARNING",
      "risk_content": "Slow SQL queries",
      "reasons": [ {
        "reason_code": "SLOW_LOG_EXIST",
        "reason_content": "Slow SQL queries",
        "suggestions": [ {
          "suggestion_code": "ANALYZE_SLOW_LOG",
          "suggestion_content": "Analyzes slow SQL statements to locate the root cause."
        } ]
      } ]
    } ]
  },
  "instance_info": {
    "tenant_id": "05204146e600d48f0f02c002850ec340",
    "project_id": "052041494800d57c2f02c00275b4c247",
    "instance_id": "bcfa975193f1402fa11a6d4fd6baf5fbin01",
    "instance_name": "rds-sql-Do not delete 1.",
    "cpu": 2,
    "mem": 8,
  }
}
```

```
"disk_size" : 60,
"disk_type" : "CLOUDSSD",
"engine" : "mysql",
"engine_version" : "5.7"
},
"performance_stat" : {
  "analyze_success" : true,
  "peak_stats" : [ {
    "metric" : "qps",
    "value" : 64.88,
    "max_value" : 11178,
    "normalized" : 0.005804258364644837,
    "stage" : "LIGHT",
    "timestamp" : 1728756000
  } ],
  "ratio_stats" : [ {
    "metric" : "qps",
    "max_value" : 11178,
    "critical_ratio" : 0,
    "medium_ratio" : 0,
    "light_ratio" : 1
  } ]
},
"disk_stat" : {
  "analyze_success" : true,
  "peak_stats" : [ {
    "metric" : "iops",
    "value" : 91.9,
    "max_value" : 4500,
    "normalized" : 0.020422222222222224,
    "stage" : "LIGHT",
    "timestamp" : 1728750600
  } ],
  "ratio_stats" : [ {
    "metric" : "iops",
    "max_value" : 4500,
    "critical_ratio" : 0,
    "medium_ratio" : 0,
    "light_ratio" : 1
  } ]
},
"table_space_stat" : {
  "analyze_success" : true
},
"slow_log_stat" : {
  "analyze_success" : true,
  "collect_slow_log" : true,
  "top_execute_slow_logs" : [ {
    "template_id" : "5B20B6BF446F926F",
    "template" : "INSERT INTO test123 VALUES (?);",
    "databases" : [ "test_db" ],
    "times" : 83,
    "avg_query_time" : 0.9021538595657752,
    "max_query_time" : 45.08398997783661,
    "avg_rows_examined" : 0,
    "sum_rows_examined" : 0,
    "avg_rows_sent" : 0
  } ],
  "rows_examined_exceeding" : [ ]
},
"full_sql_stat" : {
  "analyze_success" : true,
  "collect_full_sql" : true,
  "execute_top_templates" : [ {
    "template_id" : "B38F825636B24B7",
    "template" : "CREATE TABLE IF NOT EXISTS table_001 (id int)",
    "databases" : [ "test_db" ],
    "times" : 1,
    "avg_query_time" : 5,
```

```
    "avg_rows_examined" : 0,
    "sum_rows_examined" : 0
  } ]
},
"inspection_stat" : {
  "analyze_success" : true,
  "inspection_score" : [ {
    "score" : 100,
    "critical" : 0,
    "medium" : 0,
    "light" : 0,
    "cpu_usage" : 3.93,
    "mem_usage" : 22.91,
    "space_usage" : 8.66,
    "connection_rate" : 0.54,
    "iops_usage" : 0.28,
    "thread_running" : 4,
    "slow_sql_total" : 0,
    "lost_points_detail_list" : [ {
      "metric" : "memUsage",
      "lost_points" : 0,
      "risk_level" : "NORMAL"
    }, {
      "metric" : "cpuUsage",
      "lost_points" : 0,
      "risk_level" : "NORMAL"
    }, {
      "metric" : "spaceUsage",
      "lost_points" : 0,
      "risk_level" : "NORMAL"
    }, {
      "metric" : "iopsUsage",
      "lost_points" : 0,
      "risk_level" : "NORMAL"
    }, {
      "metric" : "connectionRate",
      "lost_points" : 0,
      "risk_level" : "NORMAL"
    }, {
      "metric" : "threadRunning",
      "lost_points" : 0,
      "risk_level" : "NORMAL"
    }, {
      "metric" : "slowSqlTotal",
      "lost_points" : 0,
      "risk_level" : "NORMAL"
    }
  ]
} ]
}
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.48 Querying a Single Metric on Multiple Nodes

Function

This API is used to query a single metric on multiple nodes.

URI

GET /v3/{project_id}/metric-names/support

Table 4-202 URI parameter

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

Request Parameters

None

Response Parameters

Status code: 200

Table 4-203 Response body parameter

Parameter	Type	Description
support_metric_names	Array of Table 4-204 objects	Explanation: Supported metric names Values: N/A

Table 4-204 support_metric_names

Parameter	Type	Description
datastore_type	Array of strings	Explanation: Database type Values: - MySQL - TaurusDB - PostgreSQL - Microsoft SQL Server
metric_name	String	Explanation: Metric name Values: N/A
unit	String	Explanation: Unit Values: N/A
description	String	Explanation: Description Values: N/A

Example Request

```
"GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/metric-names/support"
```

Example Response

Status code: 200

Successful request

```
{
  "support_metric_names": [
    {
      "datastore_type": [
        "MySQL",
        "MariaDB",
        "GaussDB(for MySQL)",
        "DDM"
      ],
      "metric_name": "slow_queries",
      "unit": "count/min",
      "description": "Number of slow SQL statements"
    },
    {
      "datastore_type": [
        "MySQL",
        "MariaDB",
        "PostgreSQL",
        "GaussDB(for MySQL)",
        "GaussDB(openGauss)",
        "SQLServer",
        "DDM"
      ],
      "metric_name": "mem_usage",
      "unit": "%",
      "description": "memory usage"
    },
    {
      "datastore_type": [
        "MySQL",
        "MariaDB",
        "PostgreSQL",
        "GaussDB(for MySQL)"
      ],
      "metric_name": "conn_active_count",
      "unit": "count",
      "description": "Number of active connections"
    },
    {
      "datastore_type": [
        "MySQL",
        "MariaDB",
        "PostgreSQL",
        "GaussDB(for MySQL)",
        "GaussDB(openGauss)",
        "SQLServer",
        "DDM"
      ],
      "metric_name": "disk_usage",
      "unit": "%",
      "description": "Disk Usage"
    },
    {
      "datastore_type": [
        "MySQL",
        "MariaDB"
      ],
      "metric_name": "conn_count",
      "unit": "count",
      "description": "Total Connections"
    },
    {
      "datastore_type": [
        "GaussDB(for MySQL)",
        "SQLServer"
      ],
      "metric_name": "data_disk_used_size",
      "unit": "GB",
      "description": "Disk Usage Size"
    }
  ]
}
```

```
},
{
  "datastore_type": [
    "MySQL",
    "MariaDB",
    "PostgreSQL",
    "GaussDB(for MySQL)",
    "GaussDB(openGauss)",
    "SQLServer",
    "DDM"
  ],
  "metric_name": "cpu_usage",
  "unit": "%",
  "description": "CPU usage"
},
{
  "datastore_type": [
    "MySQL",
    "MariaDB"
  ],
  "metric_name": "binlog_usage",
  "unit": "%",
  "description": "Binlog disk usage"
},
{
  "datastore_type": [
    "MySQL",
    "MariaDB",
    "PostgreSQL",
    "GaussDB(for MySQL)",
    "SQLServer"
  ],
  "metric_name": "replication_delay",
  "unit": "s",
  "description": "Replication latency"
}
]
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.49 Querying SQL Insight Tasks

Function

After **Collect All Query Logs** is enabled, you can query SQL Insight tasks. This function is available only for paid instances.

URI

GET /v3/{project_id}/instances/{instance_id}/full-sql-tasks

Table 4-205 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 4-206 Query parameters

Parameter	Mandatory	Type	Description
range_left	No	Long	Explanation: Minimum start time of a task Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
range_right	No	Long	Explanation: Maximum start time and end time of a task Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
create_at_left	No	Long	Explanation: Minimum creation time of a task Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
create_at_right	No	Long	Explanation: Maximum creation time of a task Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
user	No	String	Explanation: Username Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A
keyword	No	String	Explanation: Keyword Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A
db_name	No	String	Explanation: Database name Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A

Parameter	Mandatory	Type	Description
operation	No	String	Explanation: Operation type Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A
thread_id	No	String	Explanation: Thread ID Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A
trx_id	No	String	Explanation: Transaction ID Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A
status	No	String	Explanation: Execution status Constraints: Multiple values need to be separated by commas (,). Values: 0: successful 1: failed Default value: N/A

Parameter	Mandatory	Type	Description
sql_template_id	No	String	Explanation: SQL template ID Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A
sort_field	No	String	Explanation: Sorting field • create_at: task creation time • range_start_at and range_end_at: start time and end time of a task Constraints: N/A Values: • create_at: task creation time • range_start_at and range_end_at: start time and end time of a task Default value: N/A
asc	No	Boolean	Explanation: Sorting order Constraints: N/A Values: • true: ascending • false: descending Default value: N/A

Parameter	Mandatory	Type	Description
page	No	Integer	Explanation: Page number Constraints: N/A Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
limit	No	Integer	Explanation: Records on each page Constraints: N/A Values: [0, 100]. The actual value depends on the query result. Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-207 Response body parameters

Parameter	Type	Description
tasks	Array of Table 4-208 objects	Explanation: SQL Insight tasks Values: N/A
total	Integer	Explanation: Total number Values: N/A

Table 4-208 FullSqlTask

Parameter	Type	Description
id	Long	Explanation: Task ID Values: N/A
instance_id	String	Explanation: Instance ID Values: N/A
instance_name	String	Explanation: Instance name Values: N/A
node_id	String	Explanation: Node ID Values: N/A
start_at	Long	Explanation: Start time in the Unix timestamp format, in milliseconds Values: N/A
end_at	Long	Explanation: End time in the Unix timestamp format, in milliseconds Values: N/A
batch_id	String	Explanation: Batch ID Values: N/A
user_list	Array of strings	Explanation: Username Values: N/A

Parameter	Type	Description
keyword	Array of strings	Explanation: Keyword Values: N/A
db_list	Array of strings	Explanation: Database Values: N/A
operation_list	Array of strings	Explanation: Operation type Values: N/A
thread_id_list	Array of strings	Explanation: Thread ID Values: N/A
trx_id_list	Array of strings	Explanation: Transaction ID Values: N/A
status_list	Array of strings	Explanation: Execution status Values: ● 0: successful ● 1: failed
sql_template_ids	Array of strings	Explanation: SQL template ID Values: N/A
status	Integer	Explanation: Task status Values: ● 0: waiting for parsing ● 1: parsing ● 2: parsing completed ● -1: failed

Parameter	Type	Description
progress	Double	Explanation: Task progress Values: [0,100]
reason	String	Explanation: Failure cause Values: N/A
create_at	Long	Explanation: Creation time in the Unix timestamp format, in milliseconds Values: N/A
update_at	Long	Explanation: Update time in the Unix timestamp format, in milliseconds Values: N/A

Example Request

```
GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/da304cd5bbb944de828759bc7be3d3fein01/full-sql-tasks
```

Example Response

Status code: 200

Successful request

```
{
  "tasks": [
    {
      "id": 1128,
      "instance_id": "da304cd5bbb944de828759bc7be3d3fein01",
      "start_at": 1738717200000,
      "end_at": 1738720800000,
      "status": 2,
      "progress": 100,
      "create_at": 1738740285113,
      "update_at": 1738740294826
    }
  ],
  "total": 1
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.50 Synchronizing the Instance List

Function

This API is used to synchronize the instance list.

URI

POST /v3/{project_id}/instances/synchronize-instance-list

Table 4-209 URI parameters

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

Request Parameters

Table 4-210 Request body parameter

Parameter	Mandatory	Type	Description
engine_type	No	String	Explanation: DB engine type Constraints: N/A Values: N/A Default value: N/A

Response Parameters

Status code: 200

Table 4-211 Response body parameters

Parameter	Type	Description
success	Boolean	Explanation: Whether a task is successfully created Values: N/A

Example Request

Synchronizing the instance list

```
POST https://das.cn-north-7.myhuaweicloud.com/v3/052041494800d57c2f02c00275b4c247/instances/synchronize-instance-list
```

```
{  
  "engine_type" : "mysql"  
}
```

Example Response

Status code: 200

Successful request

```
{  
  "success" : true  
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.51 Setting Metric Thresholds

Function

This API is used to set metric thresholds.

URI

POST /v3/{project_id}/set-metric-threshold

Table 4-212 URI parameter

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

Request Parameters

Table 4-213 Request body parameters

Parameter	Mandatory	Type	Description
metric_code	Yes	String	Explanation: Metric code Constraints: N/A Values: N/A Default value: N/A
datastore_type	Yes	String	Explanation: Database type Constraints: N/A Values: - MySQL - TaurusDB - PostgreSQL - Microsoft SQL Server Default value: N/A
new_threshold	Yes	Double	Explanation: New threshold Constraints: N/A Values: Non-negative numbers Default value: N/A

Response Parameters

Status code: 200

Table 4-214 Response body parameter

Parameter	Type	Description
success	Boolean	Explanation: Whether the request is successful Values: • true: The request succeeded. • false: The request failed.

Example Request

```
"POST https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/set-metric-threshold"

{
  "metric_code": "sys001_cpu_usage",
  "datastore_type": "mysql",
  "new_threshold": 87
}
```

Example Response

Status code: 200

Successful request

```
{
  "success": true
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.52 Creating a Task for Parsing All SQL Statements

Function

This API is used to create a task for parsing all SQL statements.

URI

POST /v3/{project_id}/instances/{instance_id}/full-sql/add-task

Table 4-215 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

Table 4-216 Request body parameters

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: DB engine type Constraints: N/A Values: N/A Default value: N/A
node_id	No	String	Explanation: Node ID Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
start_at	Yes	Long	Explanation: Start time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A

Parameter	Mandatory	Type	Description
end_at	Yes	Long	Explanation: End time Constraints: Unix timestamp, in milliseconds Values: [0, 2 ³¹ -1]. The actual value depends on the query result. Default value: N/A
user_list	No	Array of strings	Explanation: Username list Constraints: The list can contain a maximum of 20 usernames. Values: N/A Default value: N/A
keyword_list	No	Array of strings	Explanation: Keyword list Constraints: The list can contain a maximum of 20 keywords. Values: N/A Default value: N/A
db_list	No	Array of strings	Explanation: Database list Constraints: The list can contain a maximum of 20 databases. Values: N/A Default value: N/A

Parameter	Mandatory	Type	Description
operation_list	No	Array of strings	Explanation: Operation type list Constraints: The list can contain a maximum of 20 operation types. Values: N/A Default value: N/A
thread_id_list	No	Array of strings	Explanation: Thread ID list Constraints: The list can contain a maximum of 20 thread IDs. Values: N/A Default value: N/A
status_list	No	Array of strings	Explanation: Execution status list Constraints: N/A Values: ● 0: successful ● 1: failed Default value: N/A

Response Parameters

Status code: 200

Table 4-217 Response body parameter

Parameter	Type	Description
task_id	Long	Explanation: Task ID Values: N/A

Example Request

```
POST https://das.cn-north-1.myhuaweicloud.com/v3/63be57f43e114de790a9735d1c5bc95d/instances/5c59fa7d6f09456b947f32922f9aeda1in01/full-sql/add-task
{
  "datastore_type": "mysql",
  "node_id": "09ab88b8a12340569ac056af284011d9no01",
  "start_at": 1742815900000,
  "end_at": 1742819500000,
  "user_list": [
    "a"
  ],
  "keyword_list": [
    "b"
  ],
  "db_list": [
    "c",
    "sdfssdff"
  ],
  "operation_list": [
    "SELECT"
  ],
  "thread_id_list": [
    "1"
  ],
  "status_list": [
    "0"
  ]
}
```

Example Response

Status code: 200

```
{
  "task_id": 1
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.2.53 Setting the Payment Mode

Function

This API is used to set the payment mode.

URI

POST /v3/{project_id}/cloud-dba/change-payment-mode

Table 4-218 URI parameter

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

Request Parameters

Table 4-219 Request body parameters

Parameter	Mandatory	Type	Description
instance_id_list	Yes	Array of strings	Explanation: Instance ID list Constraints: N/A Values: N/A Default value: N/A

Parameter	Mandatory	Type	Description
datastore_type	Yes	String	Explanation: DB engine type Constraints: N/A Values: N/A Default value: N/A

Response Parameters

Status code: 200

Table 4-220 Response body parameter

Parameter	Type	Description
success	Boolean	Explanation: Whether the request is successful Values: N/A

Example Request

```
POST https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/cloud-dba/change-payment-mode
{
  "instance_id_list": [
    "5c59fa7d6f09456b947f32922f9aeda1in01"
  ],
  "datastore_type": "mysql"
}
```

Example Response

Status code: 200

```
{
  "success": true
}
```

Status Codes

Status Code	Description
200	Successful request

Status Code	Description
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

4.3 Development Tool

4.3.1 Setting a Shared Connection

Function

This API is used to add a shared connection.

URI

POST /v3/{project_id}/connections/share

Table 4-221 URI parameter

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

Request Parameters

Table 4-222 Request body parameters

Parameter	Mandatory	Type	Description
shared_conn_id	Yes	String	Explanation: ID of a shared connection established between a database account and the database. The database user ID is created using the API in Creating an Instance Connection . Constraints: N/A Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed. Default value: N/A
expired_time	No	String	Explanation: Expiration time Constraints: Format: <i>yyyy-MM-ddTHH:mm:ss.SSSZ</i> Values: N/A Default value: N/A
users	Yes	Array of ShareConnUserInfo objects	Explanation: User Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A

Table 4-223 ShareConnUserInfo

Parameter	Mandato ry	Type	Description
user_id	Yes	String	Explanation: User ID Constraints: N/A Values: N/A Default value: N/A
user_name	Yes	String	Explanation: Username Constraints: N/A Values: N/A Default value: N/A

Response Parameters

Status code: 200
None

Example Request

Setting a shared link

```
POST https://{endpoint}}/v3/{project_id}/connections/share
{
  "shared_conn_id": "ee64e597-4f25-486f-bba1-0c850b3b59d6",
  "users": [
    {
      "user_id": "0852a89ae180d5401f5ac00271a4a02e",
      "user_name": "username"
    }
  ],
  "expired_time": "2023-05-03T10:30:00.200Z"
}
```

Example Response

None

Status Codes

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Codes

See [Error Codes](#).

4.3.2 Deleting a Shared Connection

Function

This API is used to delete a shared connection.

URI

DELETE /v3/{project_id}/connections/share

Table 4-224 URI parameter

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

Request Parameters

Table 4-225 Request body parameters

Parameter	Mandatory	Type	Description
shared_conn_id	Yes	String	Explanation: ID of a shared connection established between a database account and the database. The database user ID is created using the API in Creating an Instance Connection . Constraints: N/A Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed. Default value: N/A
users	Yes	Array of ShareConnUserInfo objects	Explanation: User Constraints: Multiple values need to be separated by commas (,). Values: N/A Default value: N/A

Table 4-226 ShareConnUserInfo

Parameter	Mandato ry	Type	Description
user_id	Yes	String	Explanation: User ID Constraints: N/A Values: N/A Default value: N/A
user_name	Yes	String	Explanation: Username Constraints: N/A Values: N/A Default value: N/A

Response Parameters

Status code: 200
None

Example Request

Deleting a shared link

```
DELETE https://{endpoint}/v3/{project_id}/connections/share
{
  "users": [ {
    "user_id": "0852a89ae180d5401f5ac00271a4a02e",
    "user_name": "username1"
  }, {
    "user_id": "07da4af00180d5651f49c00200b352b5",
    "user_name": "username2"
  } ],
  "shared_conn_id": "ee64e597-4f25-486f-bba1-0c850b3b59d6"
}
```

Example Response

None

Status Code

Status Code	Description
200	Successful request
400	Bad request
500	Internal server error

Error Code

See [Error Codes](#).

4.3.3 Creating an Instance Connection

Function

This API is used to create an instance connection.

URI

POST /v3/{project_id}/instances/{instance_id}/create-connection

Table 4-227 URI parameters

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

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

Table 4-228 Request body parameters

Parameter	Mandatory	Type	Description
engine_type	Yes	String	Explanation: DB engine type Constraints: N/A Values: - mysql - sqlserver - postgresql - taurus - gaussdbv5 - mongodb - ddm Default value: N/A

Parameter	Mandatory	Type	Description
network_type	Yes	String	Explanation: Source database type Constraints: N/A Values: • rds • gaussdb • dds • ddm Default value: N/A
username	Yes	String	Explanation: Username Constraints: N/A Values: N/A Default value: N/A
is_save_password	Yes	Boolean	Explanation: Whether a password needs to be saved Constraints: N/A Values: N/A Default value: N/A
password	Yes	String	Explanation: Password Constraints: N/A Values: N/A Default value: N/A

Parameter	Mandatory	Type	Description
node_ids	No	Array of strings	Explanation: Unique ID of a node Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
remarks	No	String	Explanation: Remarks Constraints: N/A Values: N/A Default value: N/A
port	No	Integer	Explanation: Port Constraints: N/A Values: [1,65536] Default value: N/A
database_name	No	String	Explanation: Database name Constraints: N/A Values: N/A Default value: N/A

Parameter	Mandatory	Type	Description
sql_record_flag	No	Boolean	Explanation: SQL record switch Constraints: N/A Values: N/A Default value: N/A

Response Parameters

Status code: 200

Table 4-229 Response body parameters

Parameter	Type	Description
connection_id	String	Explanation: Connection ID Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed.

Example Request

Creating an instance connection

```
POST https://das.cn-north-7.myhuaweicloud.com/v3/052041494800d57c2f02c00275b4c247/instances/bcfa975193f1402fa11a6d4fd6baf5fbin01/create-connection
```

```
{
  "engine_type": "mysql",
  "network_type": "rds",
  "username": "root",
  "is_save_password": true,
  "password": "Gauss_2345",
  "sql_record_flag": true,
  "remarks": "create by api"
}
```

Example Response

Status code: 200

Successful request

```
{  
  "connection_id" : "99af0766-c3f4-4e4e-a95e-14a1b070188e"  
}
```

Status Code

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Code

See [Error Codes](#).

4.3.4 Querying the Instance Connection List

Function

This API is used to querying the instance connection list.

URI

GET /v3/{project_id}/list-connections

Table 4-230 URI parameters

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

Table 4-231 Query parameters

Parameter	Mandatory	Type	Description
condition	No	String	Explanation: Keywords such as the DB instance address, instance name, and remarks Constraints: N/A Values: N/A Default value: N/A
offset	No	Integer	Explanation: Index offset. The query starts from the next piece of data indexed by this parameter. If this parameter is set to 1 and limit is set to 10 , only the second to eleventh records are displayed. Constraints: N/A Values: [0, 2 ³¹ -1] Default value: 0 : The query starts from the first data record.
limit	No	Integer	Explanation: Number of records to be queried. If this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints: N/A Values: [1, 200] Default value: 100

Parameter	Mandatory	Type	Description
network_type	No	String	Explanation: Source database type Constraints: N/A Values: • rds • gaussdb • dds • ddm Default value: N/A
datastore_type	No	String	Explanation: DB engine type Constraints: N/A Values: • mysql • sqlserver • postgresql • taurus • gaussdbv5 • mongodb • ddm Default value: N/A
connection_type	No	String	Explanation: Connection type Constraints: N/A Values: • NORMAL: created connection • SHARE: connection shared by others Default value: N/A

Parameter	Mandatory	Type	Description
instance_id	No	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 4-232 Response body parameters

Parameter	Type	Description
total_record	Integer	Explanation: Total number of records Values: N/A
das_conn_info_list	Array of Table 4-233 objects	Explanation: Connection information list Values: N/A

Table 4-233 das_conn_info_list

Parameter	Type	Description
connection_id	String	Explanation: Connection ID Values: The value is a UUID containing 36 characters. Only letters, digits, and hyphens (-) are allowed.
instance_id	String	Explanation: Instance ID Values: The value can contain 32 characters. Only letters and digits are allowed.
instance_name	String	Explanation: Instance name Values: N/A
network_type	String	Explanation: Source database type Values: • rds • gaussdb • dds • ddm
engine_type	String	Explanation: DB engine type Values: • mysql • sqlserver • postgresql • taurus • gaussdbv5 • mongodb • ddm
datastore_version	String	Explanation: Database version Values: N/A

Parameter	Type	Description
user_name	String	Explanation: Username Values: N/A
database_name	String	Explanation: Database name Values: N/A
is_save_password	Boolean	Explanation: Whether a password needs to be saved Values: N/A
ip_address	String	Explanation: IP address Values: N/A
port	Integer	Explanation: Port number Values: [1,65536]
remarks	String	Explanation: Remarks Values: N/A
create_at	Long	Explanation: Time when a connection was created Values: N/A
status	String	Explanation: Status Values: ● NORMAL: normal ● INSTANCE_DELETE: An instance is deleted.

Parameter	Type	Description
conn_share_type	String	Explanation: Connection type Values: ● NORMAL: normal connection ● SHARE: shared connection
shared_user_name	String	Explanation: Sharer name Values: N/A
shared_user_id	String	Explanation: Sharer ID Values: N/A
expired_time	Long	Explanation: Time when a shared connection expires Values: N/A

Example Request

Querying the instance connection list

```
GET https://das.cn-north-7.myhuaweicloud.com/v3/052041494800d57c2f02c00275b4c247/list-connections?curpage=0&perpage=50&connectionType=NORMAL
```

Example Response

Status code: 200

Successful request

```
{
  "total_record" : 1,
  "das_conn_info_list" : [ {
    "engine_type" : "mysql",
    "datastore_version" : "mysql 5.7.44",
    "network_type" : "rds",
    "connection_id" : "bcc4e8e-f0d8-4f96-b359-393a66d29c09",
    "instance_name" : "rds-mysql-2502",
    "instance_id" : "364a5d0498974d459782975e8b65bc13in01",
    "ip_address" : "192.168.0.204",
    "port" : 3306,
    "user_name" : "root",
    "is_save_password" : true,
    "status" : "NORMAL",
    "create_at" : 1738745756479,
    "conn_share_type" : "NORMAL"
  } ]
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

5Deprecated APIs

5.1 Creating a Space Analysis Task

Function

This API is used to create a space analysis task, for example, triggering re-analysis. This function is supported for MySQL and TaurusDB.

URI

POST /v3/{project_id}/instances/{instance_id}/space-analysis

Table 5-1 URI parameters

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

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Request Parameters

Table 5-2 Request body parameters

Parameter	Mandatory	Type	Description
operate	Yes	String	Explanation: Operation type Constraints: N/A Values: reanalysis Default value: N/A
datastore_type	Yes	String	Explanation: Engine type Constraints: N/A Values: - MySQL - TaurusDB Default value: N/A

Response Parameters

Status code: 200

Table 5-3 Response body parameter

Parameter	Type	Description
execution_time	Long	Explanation: Execution time, in milliseconds Values: N/A

Example Request

Creating a space analysis task

```
POST https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/fa7d0b6e40704cd48facf9889d6e745bin01/space-analysis
```

```
{
  "operate": "reanalysis",
  "datastore_type": "MySQL"
}
```

Example Response

Status code: 200

Successful request

```
{
  "execution_time": 1615358657378
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

5.2 Obtaining the Space Analysis Data List

Function

This API is used to obtain the space analysis data list. The file system generates instance-level data, and the **information_schema.tables** table generates

database-level and table-level data. **Space & Metadata Analysis** allows you to analyze a maximum of 10,000 tables. If tablespace data is missing, there may be too many instance tables, or the account password has not been saved. If the password has not been saved, use the user management API or page to save the database account. This function is supported for MySQL, TaurusDB, and SQL Server.

URI

GET /v3/{project_id}/instances/{instance_id}/space-analysis

Table 5-4 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region To obtain this value, see Obtaining a Project ID . Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A
instance_id	Yes	String	Explanation: Unique ID of an instance Constraints: N/A Values: The value can contain 32 characters. Only letters and digits are allowed. Default value: N/A

Table 5-5 Query parameters

Parameter	Mandatory	Type	Description
object_type	Yes	String	Explanation: Object type Constraints: N/A Values: • database • table Default value: N/A
database_id	No	String	Explanation: Database ID Constraints: This parameter is required only when object_type is set to table . Values: N/A Default value: N/A
offset	No	String	Explanation: Index offset. The query starts from the next piece of data indexed by this parameter. If this parameter is set to 1 and limit is set to 10 , only the second to eleventh records are displayed. Constraints: N/A Values: [0, 2 ³¹ -1] Default value: 0 : The query starts from the first data record.

Parameter	Mandatory	Type	Description
limit	No	String	Explanation: Number of records to be queried. If this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints: N/A Values: [1, 100] Default value: 100
show_instance_info	No	String	Explanation: Whether instance-level data is returned Constraints: N/A Values: • true • false Default value: true
datastore_type	Yes	String	Explanation: DB engine type Constraints: N/A Values: • MySQL • TaurusDB • SQLServer Default value: N/A

Request Parameters

None

Response Parameters

Status code: 200

Table 5-6 Response body parameters

Parameter	Type	Description
total	Long	Explanation: Total number of records. Values: N/A
db_objects	Array of DbObjectSpaceInfo objects	Explanation: Database objects. Values: N/A
instance_info	InstanceSpaceInfo object	Explanation: Instance storage usage. The data comes from the file system. The used space includes the data space, log space, and other space. Other space includes space for storing temporary files generated by the engine. Values: N/A

Table 5-7 DbObjectSpaceInfo

Parameter	Type	Description
object_type	String	Explanation: Object type. If the object type is table , database_id must be transferred. Values: • database • table
object_name	String	Explanation: Object name Values: N/A
object_id	String	Explanation: Object ID Values: N/A

Parameter	Type	Description
used_size	Long	Explanation: Used space, in bytes Values: N/A
data_size	Long	Explanation: Data space, in bytes Values: N/A
index_size	Long	Explanation: Index space, in bytes Values: N/A
estimated_rows	Long	Explanation: Number of estimated rows, in bytes Values: N/A

Table 5-8 InstanceSpaceInfo

Parameter	Type	Description
total_size	Long	Explanation: Total instance space, in bytes The total space of a TaurusDB instance is not returned. Values: N/A
used_size	Long	Explanation: Used space, in bytes Values: N/A
data_size	Long	Explanation: Data space, in bytes Values: N/A

Parameter	Type	Description
log_size	Long	Explanation: Log space, in bytes Values: N/A
avg_daily_growth	Long	Explanation: Average daily data growth in the last seven days, in bytes Values: N/A
last_result_time	Long	Explanation: Time when the last analysis result was generated, in milliseconds Values: N/A

Example Request

- Obtaining the database list
GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/fa7d0b6e40704cd48facf9889d6e745bin01/space-analysis?datastore_type=MySQL&object_type=database&show_instance_info=true&offset=0&limit=100
- Obtaining the table list
GET https://das.cn-north-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/fa7d0b6e40704cd48facf9889d6e745bin01/space-analysis?datastore_type=MySQL&object_type=table&database_id=24937&show_instance_info=false&offset=0&limit=100

Example Response

Status code: 200

Successful request

```
{
  "db_objects" : [ {
    "object_type" : "database",
    "object_name" : "db_01",
    "object_id" : "24937",
    "used_size" : 171687936,
    "data_size" : 129646592,
    "index_size" : 38895616
  }, {
    "object_type" : "database",
    "object_name" : "test_db",
    "object_id" : "24936",
    "used_size" : 84574208,
    "data_size" : 41484288,
    "index_size" : 38895616
  } ],
  "total" : 2,
  "instance_info" : {
    "total_size" : 42949672960,

```

```
"used_size" : 2635862016,  
"data_size" : 256262144,  
"log_size" : 2100001252,  
"avg_daily_growth" : 86016,  
"last_result_time" : 1615323657065  
}  
}
```

Status Codes

Status Code	Description
200	Successful request
400	Client error
500	Server error

Error Codes

See [Error Codes](#).

6 Permissions Policies and Supported Actions

6.1 Introduction

You can use Identity and Access Management (IAM) for fine-grained permissions management of DAS. If your Huawei Cloud account does not need individual IAM users, you can skip this section.

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

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

Table 6-1 Differences between role/policy-based and identity policy-based authorization

Authorization Model	Core Relationship	Permissions	Authorization Method	Description
Role/Policy	User-permission-authorization scope	• System-defined roles • System-defined policies • Custom policies	Assigning roles or policies to principals	To authorize a user, you need to add it to a user group first and then specify the scope of authorization. It is hard to provide fine-grained permissions control using authorization by user groups and a limited number of condition keys. This method is suitable for small- and medium-sized enterprises.
Identity policy	User-policy	• System-defined identity policies • Custom identity policies	• Assigning identity policies to principals • Attaching identity policies to principals	You can authorize a user by attaching an identity policy to it. User-specific authorization and a variety of key conditions allow for more fine-grained permissions control. However, this model can be hard to set up. It requires a certain amount of expertise and is suitable for medium- and large-sized enterprises.

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

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

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

Assume that an IAM user wants to call an API to query DB instances on DAS. With policy-based authorization, the IAM user must be granted the permissions allowing for action **das:instance:list**. With identity policy-based authorization, the IAM user must be granted the permissions allowing for action **das:instance:listAll**.

6.2 Actions Supported by Policy-based Authorization

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

Supported Actions

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

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

DAS supports the following actions in custom policies.

Table 6-2 Intelligent O&M

Permission	API	Action	IAM Project	Enterprise Project
Querying database users	GET /v3/{project_id}/instances/{instance_id}/db-users	das:clouddba:listDbUser	√	x

Permission	API	Action	IAM Project	Enterprise Project
Creating a database user	POST /v3/{project_id}/instances/{instance_id}/db-users	das:clouddba:registerDbUser	√	x
Querying a specified database user	GET /v3/{project_id}/instances/{instance_id}/db-users/{db_user_id}	das:clouddba:getDbUser	√	x
Modifying a database user	PUT /v3/{project_id}/instances/{instance_id}/db-users/{db_user_id}	das:clouddba:modifyDbUser	√	x
Deleting a database user	DELETE /v3/{project_id}/instances/{instance_id}/db-users/{db_user_id}	das:clouddba:deleteDbUser	√	x
Querying a SQL execution plan	GET /v3/{project_id}/instances/{instance_id}/sql/explain	das:clouddba:showSqlExecutionPlan	√	x
Querying a SQL execution plan	POST /v3/{project_id}/instances/{instance_id}/sql/explain	das:clouddba:showSqlExecutionPlan	√	x
Querying instance sessions	GET /v3/{project_id}/instances/{instance_id}/processes	das::showCloudDBAInfo	√	x
Killing a session	DELETE /v3/{project_id}/instances/{instance_id}/process	das:clouddba:deleteProcess	√	x
Querying metadata locks	GET /v3/{project_id}/instances/{instance_id}/metadata-locks	das:clouddba:listMetadataLock	√	x
Querying InnoDB lock waits	GET /v3/{project_id}/instances/{instance_id}/innodb-locks	das:clouddba:listInnoDBLock	√	x
Exporting slow query logs	GET /v3/{project_id}/instances/{instance_id}/slow-query-logs	das:clouddba:slowSqlExport	√	x
Exporting all query logs	GET /v3/{project_id}/instances/{instance_id}/sql-statements	das:clouddba:fullSqlExport	√	x

Permission	API	Action	IAM Project	Enterprise Project
Querying SQL Insights tasks	GET /v3/{project_id}/instances/{instance_id}/full-sql-tasks	das:clouddba:listFullSql	√	×
Exporting details about all query logs	GET /v3/{project_id}/instances/{instance_id}/full-sql-search	das:clouddba:listFullSql	√	×
Whether Collect All Query Logs and Collect Slow Query Logs are enabled	GET /v3/{project_id}/instances/{instance_id}/sql/switch	das:clouddba:showSqlSwitchStatus	√	×
Enabling or disabling Collect All Query Logs and Collect Slow Query Logs	POST /v3/{project_id}/instances/{instance_id}/sql/switch	das:clouddba:changeSqlSwitch	√	×
Whether Historical Transactions is enabled	GET /v3/{project_id}/instances/{instance_id}/transaction/switch	das::showCloudDBAInfo	√	×
Enabling or disabling historical transactions	POST /v3/{project_id}/instances/{instance_id}/transaction/switch	das:clouddba:changeTransactionSwitch	√	×
Querying historical transactions	GET /v3/{project_id}/instances/{instance_id}/transaction	das::showCloudDBAInfo	√	×
Obtaining the space analysis data list	GET /v3/{project_id}/instances/{instance_id}/space-analysis	das:clouddba:listSpaceAnalysis	√	×

Permission	API	Action	IAM Project	Enterprise Project
Creating a space analysis task	POST /v3/{project_id}/instances/{instance_id}/space-analysis	das:clouddba:createSpaceAnalysisTask	√	×
Querying whether SQL Throttling is enabled	GET /v3/{project_id}/instances/{instance_id}/sql-limit/switch	das:clouddba:showSqlLimitSwitchStatus	√	×
Enabling or disabling SQL Throttling	POST /v3/{project_id}/instances/{instance_id}/sql-limit/switch	das:clouddba:changeSqlLimitSwitchStatus	√	×
Querying a SQL throttling task	GET /v3/{project_id}/instances/{instance_id}/sql-limit/job	das:clouddba:showSqlLimitJobInfo	√	×
Querying SQL throttling rules	GET /v3/{project_id}/instances/{instance_id}/sql-limit/rules	das:clouddba:listSqlLimitRules	√	×
Creating a SQL throttling rule	POST /v3/{project_id}/instances/{instance_id}/sql-limit/rules	das:clouddba:createSqlLimitRules	√	×
Deleting a SQL throttling rule	DELETE /v3/{project_id}/instances/{instance_id}/sql-limit/rules	das:clouddba:deleteSqlLimitRules	√	×
Modifying a SQL throttling rule	PUT /v3/{project_id}/instances/{instance_id}/sql-limit/rules	das:clouddba:updateSqlLimitRules	√	×
Generating keywords of a SQL throttling rule based on the original SQL statement	POST /v3/{project_id}/instances/{instance_id}/sql-limit/parse	das:clouddba:createSqlLimitRules	√	×

Permission	API	Action	IAM Project	Enterprise Project
Querying Intelligent O&M quotas	GET /v3/{project_id}/quotas	das::showQuotas	√	×
Exporting the top SQL template list	GET /v3/{project_id}/instances/{instance_id}/top-sql-templates	das:clouddba:listTopSql	√	×
Exporting SQL duration distribution	GET /v3/{project_id}/instances/{instance_id}/top-sql-trend	das:clouddba:listTopSql	√	×
Exporting the slow SQL template list	GET /v3/{project_id}/instances/{instance_id}/slow-sql-templates	das:clouddba:slowSqlExport	√	×
Exporting the quantity trend of slow query logs	GET /v3/{project_id}/instances/{instance_id}/slow-sql-trend	das:clouddba:slowSqlExport	√	×
Exporting slow query log statistics	POST /v3/{project_id}/instances/{instance_id}/slow-sql-statistics	das::showCloudDBAInfo	√	×
Executing a SQL diagnosis task	POST /v3/{project_id}/connections/{connectionId}/tuning/create-tuning	das:clouddba:sqlDiagnosis	√	×
Obtaining the diagnosis result	GET /v3/{project_id}/connections/{connectionId}/tuning/{messageId}/show-tuning-result	das:clouddba:sqlDiagnosis	√	×
Exporting top risky instances	GET /v3/{project_id}/instances/top-risk	das::showCloudDBAInfo	√	×

Permission	API	Action	IAM Project	Enterprise Project
Querying the risk trend of an instance	GET /v3/{project_id}/instances/risk-trend	das::showCloudDBAInfo	√	×
Querying the instance distribution	GET /v3/{project_id}/instances/distribution	das::showCloudDBAInfo	√	×
Querying top slow SQL statements	GET /v3/{project_id}/instances/top-slow-log	das::showCloudDBAInfo	√	×
Querying top slow SQL statements of an instance	GET /v3/{project_id}/instances/{instance_id}/top-slow-log	das::showCloudDBAInfo	√	×
Single metric on multiple nodes	GET /v3/{project_id}/metric-names/support	das::showCloudDBAInfo	√	×
Obtaining information about a single instance node	GET /v3/{project_id}/instance/nodes-info	das::showCloudDBAInfo	√	×
Obtaining data of a single metric on multiple nodes	POST /v3/{project_id}/multi-nodes/single-metric	das::showCloudDBAInfo	√	×
Querying risk items of an instance	GET /v3/{project_id}/get-risk-items	das::showCloudDBAInfo	√	×
Setting metric thresholds	POST /v3/{project_id}/set-metric-threshold	das::setMetricThreshold	√	×

Permission	API	Action	IAM Project	Enterprise Project
Viewing the instance list on the Intelligent O&M page	GET /v3/{project_id}/instances	das::listInstances	√	×
Creating an instance diagnosis task	POST /v3/{project_id}/instances/{instance_id}/create-instance-health-report-task	das:clouddba:dailyReportsSubscribe	√	×
Querying instance diagnosis reports	GET /v3/{project_id}/instances/{instance_id}/get-instance-health-report-task-list	das:clouddba:listDailyReports	√	×
Obtaining an instance diagnosis report	GET /v3/{project_id}/instances/{instance_id}/get-instance-health-report	das:clouddba:listDailyReports	√	×
Synchronizing the instance list	POST /v3/{project_id}/instances/synchronize-instance-list	das::showCloudDBAInfo	√	×
Setting the payment mode	POST /v3/{project_id}/cloud-dba/change-payment-mode	das:clouddba:changePaymentMode	√	×
Creating a task for parsing all SQL statements	POST /v3/{project_id}/instances/{instance_id}/full-sql/add-task	das:clouddba:listFullSql	√	×

Table 6-3 Development Tool

Permission	API	Action	IAM Project	Enterprise Project
Setting a shared connection	POST /v3/{project_id}/connections/share	das:connection:createShareConnections	√	×

Permissi on	API	Action	IAM Project	Enterprise Project
Deleting a shared connecti on	DELETE /v3/{project_id}/ connections/share	das:connection: cancelShareCo nnections	√	x
Creating an instance connecti on	POST /v3/{project_id}/ instances/{instance_id}/ create-connection	das:instance:cre ateConnection	√	x
Queryin g the instance connecti on list	GET /v3/{project_id}/list- connections	das::showCloud DBAInfo	√	x

 NOTE

"√" indicates that the permission is supported, and "x" indicates that the permission is not supported.

6.3 Actions Supported by Identity Policy-based Authorization

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

In addition to IAM, the **Organizations** service also provides **Service Control Policy (SCP)** to set access control policies.

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

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

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

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

- For details about how to use these elements to edit a custom SCP, see [Creating an SCP](#).

Actions

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

- The **Access Level** column describes how the action is classified (**List**, **Read**, or **Write**). This classification helps you understand the level of access that an action grants when you use it in an identity policy.
- The **Resource Type** column indicates whether the action supports resource-level permissions.
 - You can use a wildcard (*) to indicate all resource types. If this column is empty (-), the action does not support resource-level permissions and you must specify all resources ("*") in your identity policy statements.
 - If this column includes a resource type, you must specify the URN in the Resource element of your statements.
 - Required resources are marked with asterisks (*) in the table. If you specify a resource in a statement using this action, then it must be of this type.

For details about the resource types defined by DAS, see [Resources](#).

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

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

- The **Alias** column lists the policy actions that are configured in identity policies. With these actions, you can use APIs for policy-based authorization. For details, see [Policies and Identity Policies](#).

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

Table 6-4 Actions supported by DAS

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
das:instance:createConnection	Grants the permission to add database connections.	Write	Instance	-	das:connections:create

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
das:connection:login	Grants the permission to connect to a DB instance.	Write	Connection	-	das:connections:login
das:instance:dbsLogin	Grants the permission to connect to a DB instance from DBS.	Write	Instance	-	das:connections:login
das:connection:modify	Grants the permission to modify database connection information.	Write	Connection	-	das:connections:modify
das:connection:delete	Grants the permission to delete database connection information.	Write	Connection	-	das:connections:delete
das:connection:list	Grants the permission to obtain the connection information list.	List	Connection	-	das:connections:list
das:connection:createShareConnections	Grants the permission to create shared connections.	Write	Connection	das:TargetOrgPath das:TargetOrgId das:TargetAccountId	-
das:connection:cancelShareConnections	Grants the permission to delete shared connections.	Write	Connection	-	-
das:clouddba:getDbUser	Grants the permission to obtain database user information.	Read	Instance	-	-

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
das:clouddba:registerDbUser	Grants the permission to add database connections.	Write	Instance	-	-
das:clouddba:listDbUser	Grants permission to query database users.	List	Instance	-	-
das:clouddba:modifyDbUser	Grants permission to change permissions of a database user.	Write	Instance	-	-
das:clouddba:deleteDbUser	Grants permission to delete a database user.	Write	Instance	-	-
das:clouddba:listInnoDBLock	Grants the permission to display InnoDB lock waits.	List	Instance	-	-
das:clouddba:listMetadataLock	Grants the permission to query metadata locks.	List	Instance	-	-
das:clouddba:deleteProcess	Grants the permission to delete an instance session.	Write	Instance	-	-
das:clouddba:listSlowSql	Grants the permission to query the slow query logs.	List	Instance	-	das:clouddba:slowSqlList
das:clouddba:slowSqlExport	Grants the permission to export slow query logs.	List	Instance	-	-

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
das:clouddba:listFullSql	Grants the permission to query the all query logs.	List	Instance	-	das:clouddba:fullSqlList
das:clouddba:fullSqlExport	Grants the permission to export all query logs.	List	Instance	-	-
das:clouddba:listTopSql	Grants the permission to query the top SQL list.	List	Instance	-	das:clouddba:topSqlList
das:clouddba:listProcess	Grants the permission to query sessions of an instance.	List	Instance	-	-
das:clouddba:changePaymentMode	Grants the permission to set the payment mode.	Write	Instance	-	-
das:clouddba:dailyReportsSubscribe	Grants the permission to subscribe to daily reports.	Write	Instance	-	-
das:clouddba:listDailyReports	Grants the permission to query daily reports.	List	Instance	-	das:clouddba:dailyReportsList
das:clouddba:listSpaceAnalysis	Grants the permission to query space diagnosis tasks.	List	Instance	-	-
das:clouddba:listSqlLimitRules	Grants the permission to query SQL throttling rules.	List	Instance	-	-

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
das:clouddba:showSqlExecutionPlan	Grants the permission to display SQL execution plans.	Read	Connection Instance	-	das:clouddba:getSqlExecutionPlan
das:clouddba:sqlDiagnosis	Grants the permission to perform SQL diagnosis.	Write	Connection Instance	-	-
das:clouddba:showSqlLimitJobInfo	Grants permission to query SQL throttling task information.	Read	Instance	-	-
das:clouddba:showSqlLimitSwitchStatus	Grants the permission to query the SQL throttling status.	Read	Instance	-	-
das:clouddba:showSqlSwitchStatus	Grants the permission to query the status of Collect All Query Logs and Collect Slow Query Logs .	Read	Instance	-	-
das:clouddba:deleteSqlLimitRules	Grants the permission to delete SQL throttling rules.	Write	Instance	-	-
das:clouddba:modifySqlLimitRules	Grants the permission to modify SQL throttling rules.	Write	Instance	-	-
das:clouddba:changeSqlLimitSwitchStatus	Grants the permission to modify the status of SQL throttling.	Write	Instance	-	-

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
das:clouddba:changeSqlSwitch	Grants the permission to configure Collect All Query Logs and Collect Slow Query Logs .	Write	Instance	-	-
das:clouddba:createSpaceAnalysisTask	Grants the permission to create space diagnosis tasks.	Write	Instance	-	-
das:clouddba:createSqlLimitRules	Grants the permission to create SQL throttling rules.	Write	Instance	-	-
das:clouddba:executeSql	Grants the permission to execute SQL statements.	Write	Instance	-	-
das:clouddba:listBinlog	Grants the permission to view binlogs.	List	Instance	-	-
das:clouddba:createBinlogAnalysisTask	Grants the permission to create a binlog parsing task.	Write	Instance	-	-
das::addQuota	Grants the permission to add quotas.	Write	-	-	das:clouddba:changePaymentMode
das::showQuotas	Grants the permission to query resource quotas.	Read	-	-	das:clouddba:menuList
das::getSupported	Grants the permission to query the engine types supported in the current region.	Read	-	-	das:connections:list

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
das::getWhitelist	Grants the permission to query the function whitelist supported in the current region.	Read	-	-	das:connections:list
das::listInstances	Grants the permission to query all types of DB instances.	List	-	-	das:connections:list
das:instance:executeTestConnection	Grants the permission to execute a test connection.	Write	Instance	-	das:connections:login
das:connection:getSharedList	Grants the permission to obtain the share list of a connection.	List	Connection	-	das:connections:list
das:connection:updateSharedInfo	Grants the permission to update a shared connection.	Write	Connection	-	das:connections:modify
das:connection:getConnection	Grants the permission to view connection information.	Read	Connection	-	das:connections:list
das::getGlobalPrivacy	Grants the permission to view the privacy statement.	Read	-	-	das:connections:list
das::putGlobalPrivacy	Grants the permission to update the privacy description.	Write	-	-	das:connections:list

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
das::showCloudDBAInfo	Grants the permission to view Intelligent O&M information.	Read	-	-	-
das:clouddba:showKillTaskSwitch	Grants the permission to view the switch for continuously killing sessions.	Read	Instance	-	-
das:clouddba:changeKillTaskSwitch	Grants the permission to modify a task of continuously killing sessions.	Write	Instance	-	-
das:clouddba:listKillTaskRecord	Grants the permission to view tasks of continuously killing sessions.	List	Instance	-	-
das:clouddba:createKillTask	Grants the permission to create a task of continuously killing sessions.	Write	Instance	-	-
das:clouddba:stopKillTask	Grants the permission to stop a task of continuously killing sessions.	Write	Instance	-	-

Each API of DAS usually supports one or more actions. [Table 6-5](#) lists the supported actions and dependencies.

Table 6-5 Actions and dependencies supported by DAS APIs

API	Action	Dependencies
GET /v3/{project_id}/instances/{instance_id}/db-users	das:clouddba:listDbUser	-
POST /v3/{project_id}/instances/{instance_id}/db-users	das:clouddba:registerDbUser	-
GET /v3/{project_id}/instances/{instance_id}/db-users/{db_user_id}	das:clouddba:getDbUser	-
PUT /v3/{project_id}/instances/{instance_id}/db-users/{db_user_id}	das:clouddba:modifyDbUser	-
DELETE /v3/{project_id}/instances/{instance_id}/db-users/{db_user_id}	das:clouddba:deleteDbUser	-
GET /v3/{project_id}/instances/{instance_id}/sql/explain	das:clouddba:showSqlExecutionPlan	-
POST /v3/{project_id}/instances/{instance_id}/sql/explain	das:clouddba:showSqlExecutionPlan	-
GET /v3/{project_id}/instances/{instance_id}/processes	das::showCloudDBAInfo	-
DELETE /v3/{project_id}/instances/{instance_id}/process	das:clouddba:deleteProcess	-
GET /v3/{project_id}/instances/{instance_id}/metadata-locks	das:clouddba:listMetadataLock	-
GET /v3/{project_id}/instances/{instance_id}/innodb-locks	das:clouddba:listInnoDBLock	-
GET /v3/{project_id}/instances/{instance_id}/slow-query-logs	das:clouddba:slowSqlExport	-
GET /v3/{project_id}/instances/{instance_id}/sql-statements	das:clouddba:fullSqlExport	-
GET /v3/{project_id}/instances/{instance_id}/full-sql-tasks	das:clouddba:listFullSql	-
GET /v3/{project_id}/instances/{instance_id}/full-sql-search	das:clouddba:listFullSql	-
GET /v3/{project_id}/instances/{instance_id}/sql/switch	das:clouddba:showSqlSwitchStatus	-
POST /v3/{project_id}/instances/{instance_id}/sql/switch	das:clouddba:changeSqlSwitch	-
GET /v3/{project_id}/instances/{instance_id}/transaction/switch	das::showCloudDBAInfo	-

API	Action	Dependencies
POST /v3/{project_id}/instances/{instance_id}/transaction/switch	das:clouddba:changeTransactionSwitch	-
GET /v3/{project_id}/instances/{instance_id}/transaction	das::showCloudDBAInfo	-
GET /v3/{project_id}/instances/{instance_id}/space-analysis	das:clouddba:listSpaceAnalysis	-
POST /v3/{project_id}/instances/{instance_id}/space-analysis	das:clouddba:createSpaceAnalysisTask	-
GET /v3/{project_id}/instances/{instance_id}/sql-limit/switch	das:clouddba:showSqlLimitSwitchStatus	-
POST /v3/{project_id}/instances/{instance_id}/sql-limit/switch	das:clouddba:changeSqlLimitSwitchStatus	-
GET /v3/{project_id}/instances/{instance_id}/sql-limit/job	das:clouddba:showSqlLimitJobInfo	-
GET /v3/{project_id}/instances/{instance_id}/sql-limit/rules	das:clouddba:listSqlLimitRules	-
POST /v3/{project_id}/instances/{instance_id}/sql-limit/rules	das:clouddba:createSqlLimitRules	-
DELETE /v3/{project_id}/instances/{instance_id}/sql-limit/rules	das:clouddba:deleteSqlLimitRules	-
PUT /v3/{project_id}/instances/{instance_id}/sql-limit/rules	das:clouddba:updateSqlLimitRules	-
POST /v3/{project_id}/instances/{instance_id}/sql-limit/parse	das:clouddba:createSqlLimitRules	-
GET /v3/{project_id}/quotas	das::showQuotas	-
GET /v3/{project_id}/instances/{instance_id}/top-sql-templates	das:clouddba:listTopSql	-
GET /v3/{project_id}/instances/{instance_id}/top-sql-trend	das:clouddba:listTopSql	-
GET /v3/{project_id}/instances/{instance_id}/slow-sql-templates	das:clouddba:slowSqlExport	-
GET /v3/{project_id}/instances/{instance_id}/slow-sql-trend	das:clouddba:slowSqlExport	-
POST /v3/{project_id}/instances/{instance_id}/slow-sql-statistics	das::showCloudDBAInfo	-
POST /v3/{project_id}/connections/{connectionId}/tuning/create-tuning	das:clouddba:sqlDiagnosis	-

API	Action	Dependencies
GET /v3/{project_id}/connections/{connectionId}/tuning/{messageId}/show-tuning-result	das:clouddba:sqlDiagnosis	-
GET /v3/{project_id}/instances/top-risk	das::showCloudDBAInfo	-
GET /v3/{project_id}/instances/risk-trend	das::showCloudDBAInfo	-
GET /v3/{project_id}/instances/distribution	das::showCloudDBAInfo	-
GET /v3/{project_id}/instances/top-slow-log	das::showCloudDBAInfo	-
GET /v3/{project_id}/instances/{instance_id}/top-slow-log	das::showCloudDBAInfo	-
GET /v3/{project_id}/metric-names/support	das::showCloudDBAInfo	-
GET /v3/{project_id}/instance/nodes-info	das::showCloudDBAInfo	-
POST /v3/{project_id}/multi-nodes/single-metric	das::showCloudDBAInfo	-
GET /v3/{project_id}/get-risk-items	das::showCloudDBAInfo	-
POST /v3/{project_id}/set-metric-threshold	das::setMetricThreshold	-
GET /v3/{project_id}/instances	das::listInstances	-
POST /v3/{project_id}/instances/{instance_id}/create-instance-health-report-task	das:clouddba:dailyReportsSubscribe	-
GET /v3/{project_id}/instances/{instance_id}/get-instance-health-report-task-list	das:clouddba:listDailyReports	-
GET /v3/{project_id}/instances/{instance_id}/get-instance-health-report	das:clouddba:listDailyReports	-
POST /v3/{project_id}/instances/synchronize-instance-list	das::showCloudDBAInfo	-
POST /v3/{project_id}/cloud-dba/change-payment-mode	das:clouddba:changePaymentMode	-

API	Action	Dependencies
POST /v3/{project_id}/instances/{instance_id}/full-sql/add-task	das:clouddba:listFullSql	-
POST /v3/{project_id}/connections/share	das:connection:createShareConnections	-
DELETE /v3/{project_id}/connections/share	das:connection:cancelShareConnections	-
POST /v3/{project_id}/instances/{instance_id}/create-connection	das:instance:createConnection	-
GET /v3/{project_id}/list-connections	das::showCloudDBAInfo	-

Resources

A resource type indicates the resources that an identity policy applies to. If you specify a resource type for any action in [Table 6-6](#), the resource URN must be specified in the identity policy statements using that action, and the identity policy applies only to resources of this type. If no resource type is specified, the Resource element is marked with an asterisk (*) and the policy applies to all resources. You can also set condition keys in an identity policy to define resource types.

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

Table 6-6 Resource types supported by DAS

Resource Type	URN	Condition Key
Instance	das:<region>:<account-id>:instance:<instance-id>	-
Connection	das:<region>:<account-id>:connection:<connection-id>	-

Conditions

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

- A key in the **Condition** element of a statement can be a global condition key or a service-specific condition key.
 - Global condition keys (with the **g:** prefix) apply to all actions. Cloud services do not need to provide user identity information. Instead, the system automatically obtains such information and authenticates users. For details, see [Global Condition Keys](#).

- Service-specific condition keys (with the abbreviation of a service name plus a colon as the prefix, for example, **DAS:**) apply only to operations of DAS. For details, see [Table 6-7](#).
- The number of values associated with a condition key in the request context of an API call makes the condition key single-valued or multivalued. Single-valued condition keys have at most one value in the request context of an API call. Multivalued condition keys can have multiple values in the request context of an API call. For example, a request can originate from at most one VPC endpoint, so `g:SourceVpce` is a single-valued condition key. You can tag resources and include multiple tag key-value pairs in a request, so `g:TagKeys` is a multivalued condition key.
- A condition operator, condition key, and a condition value together constitute a complete condition statement. An identity policy can only be applied when its request conditions are met. For supported condition operators, see [condition operators](#).

The following table lists the condition keys that you can define in custom policies for DAS. You can use these condition keys to specify additional conditions under which the policy is applied.

Table 6-7 Service-specific condition keys supported by DAS

Service-specific Condition Key	Type	Description
<code>das:TargetOrgPath</code>	String	Controls permissions of target shared accounts based on their organization paths.
<code>das:TargetOrgId</code>	String	Controls permissions of target shared accounts based on their organization IDs.
<code>das:TargetAccountId</code>	String	Controls permissions of target shared accounts based on their IDs.

7 Appendixes

7.1 Abnormal Request Results

- Abnormal response

Table 7-1 Parameter description

Parameter	Type	Description
error_code	String	Error code returned when a task submission exception occurs. For details, see Error Codes .
error_msg	String	Error description returned when a task submission exception occurs

- Example abnormal response

```
{
  "error_code": "DAS.200100",
  "error_msg": "Parameter error"
}
{
  "error_code": "DAS.200051",
  "error_msg": "Authentication failed"
}
```

7.2 Status Codes

Table 7-2 Status codes

Status Code	Message	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.
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.

Status Code	Message	Description
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.
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.

Status Code	Message	Description
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.
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.

Status Code	Message	Description
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.
505	HTTP Version not supported	The server does not support the HTTP protocol version used in the request.

7.3 Error Codes

If an error occurs in API calling, no result is returned. Identify the error cause based on the error codes of each API. If an error occurs, an HTTP status code is returned. The response body contains the specific error code and information.

Status Code	Error Code	Error Message	Description	Solution
400	DAS.200002	Frequent requests.	Too frequent requests.	Try again later.
400	DAS.200100	The parameter is invalid.	Invalid parameters.	Check whether the parameter is correct.
400	DAS.200101	The start_at parameter is invalid.	Parameter start_at is invalid.	Check whether the parameter is correct.
400	DAS.200102	The end_at parameter is invalid.	Parameter end_at is invalid.	Check whether the parameter is correct.
400	DAS.200103	The offset parameter is invalid.	Parameter offset is invalid.	Check whether the parameter is correct.

Status Code	Error Code	Error Message	Description	Solution
400	DAS.200104	The limit parameter is invalid.	Parameter limit is invalid.	Check whether the parameter is correct.
400	DAS.200105	The order parameter is invalid.	Parameter order is invalid.	Check whether the parameter is correct.
400	DAS.200106	The order_by parameter is invalid.	Parameter order_by is invalid.	Check whether the parameter is correct.
400	DAS.200107	The datastore_type is invalid.	Parameter datastore_type is invalid.	Check whether the parameter is correct.
400	DAS.200108	The database value is invalid!	Parameter database is invalid.	Check whether the parameter is correct.
400	DAS.200109	The script value is invalid!	Parameter script is invalid.	Check whether the parameter is correct.
400	DAS.200110	The lock_status value is invalid!	Parameter lock_status is invalid.	Check whether the parameter is correct.
400	DAS.200111	The lock_type value is invalid!	Parameter lock_type is invalid.	Check whether the parameter is correct.
400	DAS.200112	The db_user_id value is invalid!	Parameter db_user_id is invalid.	Check whether the parameter is correct.
400	DAS.200113	The project_id parameter is invalid.	Parameter project_id is invalid.	Check whether the parameter is correct.
400	DAS.200114	The instance_id parameter is invalid.	Parameter instance_id is invalid.	Check whether the parameter is correct.
400	DAS.200115	The parameter of DeleteProcess is invalid!	Parameters for killing sessions are invalid.	Check whether the parameter is correct.

Status Code	Error Code	Error Message	Description	Solution
400	DAS.200116	The type parameter is invalid.	Parameter type is invalid.	Check whether the parameter is correct.
400	DAS.200117	The status parameter is invalid.	Parameter status is invalid.	Check whether the parameter is correct.
400	DAS.200118	The retention_days parameter is invalid.	Parameter retention_days is invalid.	Check whether the parameter is correct.
400	DAS.200119	The object_type parameter is invalid.	Parameter object_type is invalid.	Check whether the parameter is correct.
400	DAS.200120	This API is only available for paid instances.	This API is available only for paid instances.	Subscribe to Intelligent O&M and configure instances as paid.
400	DAS.200121	The marker is only valid for three minutes. If the expiration time is exceeded, please re export.	The marker is valid only within 3 minutes. If the marker is invalid, export it again.	Export it again.
400	DAS.220002	Failed to connect to the database.	Failed to connect to the database.	Check whether the instance is running properly and the database username and password are correct.
400	DAS.220003	The database user does not exist.	The database user does not exist.	Check whether the parameter is correct.
400	DAS.220004	The database user already exists.	The database user already exists.	Check whether the database user exists.

Status Code	Error Code	Error Message	Description	Solution
400	DAS.220029	Failed to operate the SQL limit switch.	Failed to enable or disable SQL Throttling .	Rectify the fault based on the information returned in error_msg.
400	DAS.220030	Failed to operate the SQL limit rules.	Failed to enable or disable the SQL throttling rules.	Rectify the fault based on the information returned in error_msg.
403	DAS.200050	Invalid token.	The token is invalid.	Check whether the token is correct, or obtain the token and try again.
403	DAS.200051	Authentication failed.	Authentication failed.	Check whether you have the required permission.
500	DAS.200001	Internal service error.	Internal service error.	Contact the customer service.
500	DAS.200003	Internal service invoking error.	Internal service invoking error.	Contact the customer service.
500	DAS.220005	Failed to kill process.	Failed to kill sessions.	Rectify the fault based on the information returned in error_msg.
500	DAS.220006	Failed to Query Metadata Locks.	Failed to query metadata locks.	Rectify the fault based on the information returned in error_msg.
500	DAS.220007	Failed to query InnoDB locks.	Failed to query InnoDB lock waits.	Rectify the fault based on the information returned in error_msg.

Status Code	Error Code	Error Message	Description	Solution
500	DAS.220008	Failed to query process list.	Failed to query instance sessions.	Rectify the fault based on the information returned in error_msg.
500	DAS.220009	Failed to query SQL execution plan.	Failed to query the SQL execution plan.	Rectify the fault based on the information returned in error_msg.
500	DAS.220010	Failed to list slow query logs.	Failed to obtain slow SQL details.	Rectify the fault based on the information returned in error_msg.
500	DAS.220011	Failed to list SQL statements.	Failed to obtain all query logs.	Rectify the fault based on the information returned in error_msg.
500	DAS.220012	Failed to enable/disable DAS SQL explorer.	Failed to enable or disable Collect All Query Logs .	Try again.
500	DAS.220013	Failed to enable/disable DAS Slow Query Log.	Failed to enable or disable Collect Slow Query Logs .	Try again.
500	DAS.220014	Failed to query the status.	Failed to query the switch status.	Rectify the fault based on the information returned in error_msg.
500	DAS.220015	Failed to query space analysis data.	Failed to query space analysis data.	Rectify the fault based on the information returned in error_msg.

Status Code	Error Code	Error Message	Description	Solution
500	DAS.220016	Failed to execute the space analysis task.	Failed to execute the space analysis task.	Check whether the database account has been recorded for the instance.
500	DAS.220017	The switch is not enabled.	Failed to enable log collection.	Toggle on the switch.
500	DAS.220065	Failed to turn on/off the DAS transaction switch.	Failed to enable or disable the historical transaction switch.	Rectify the fault based on the information returned in error_msg.
500	DAS.220066	Failed to query the DAS historical transaction switch.	Failed to query the status of the historical transaction switch.	Rectify the fault based on the information returned in error_msg.
500	DAS.220067	Failed to query the DAS historical transaction list.	Failed to query the historical transaction list.	Rectify the fault based on the information returned in error_msg.

7.4 Obtaining a Project ID

Scenarios

A project ID is required for some URLs when an API is called. Therefore, you need to obtain a project ID in advance. Two methods are available:

- [Obtaining a Project ID by Calling an API](#)
- [Obtaining a Project ID from the Console](#)

Obtaining a Project ID by Calling an API

You can obtain the project ID by calling the API used to [query project information based on the specified criteria](#).

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

The following is an example response. **id** indicates the project ID.

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

Obtaining a Project ID from the Console

1. Register yourself on the management console and log in to it.
2. Move your pointer over the username and select **My Credential** in the displayed drop-down list.

On the **My Credentials** page, view the project ID in the project list.

Figure 7-1 Viewing project IDs

