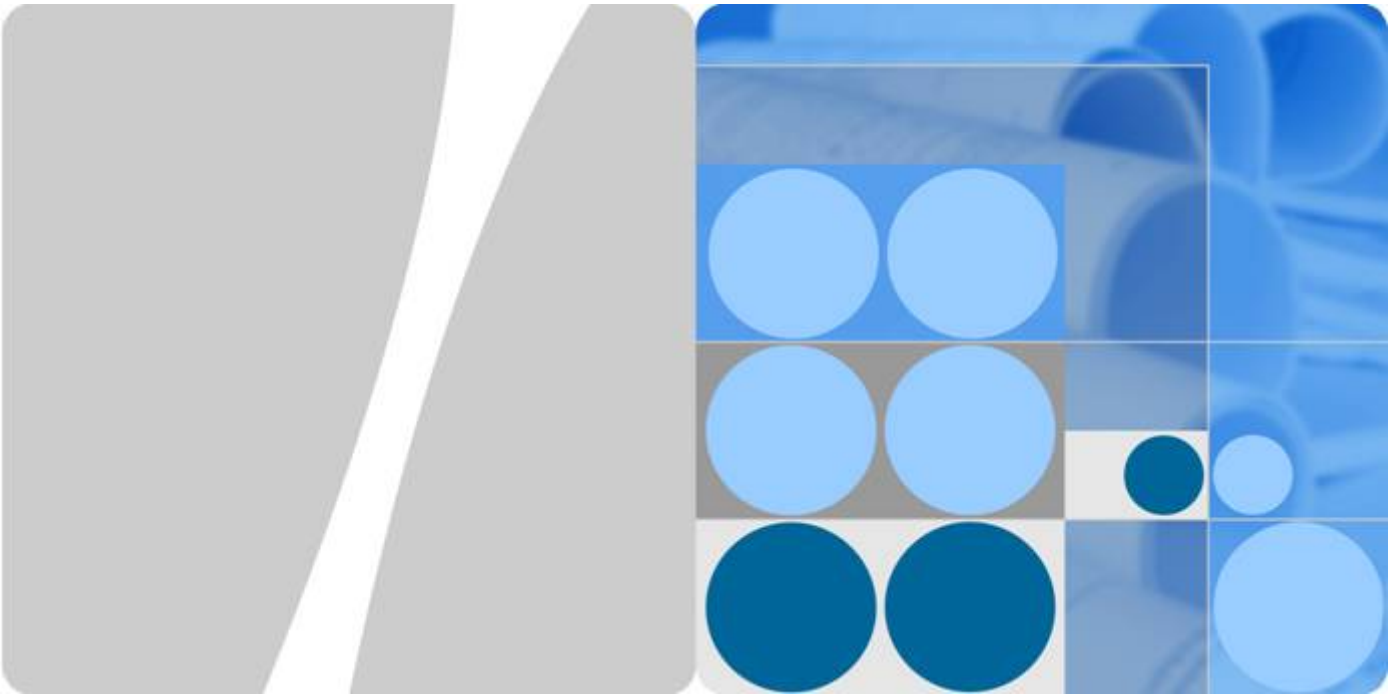


Distributed Cache Service

API Refrence

Date **2020-09-30**

Contents

1 Before You Start

1.1 Overview

Welcome to *Distributed Cache Service API Reference*. Distributed Cache Service (DCS) is an online, distributed, in-memory cache service compatible with Redis and Memcached. It is reliable, scalable, usable out of the box, and easy to manage, meeting your requirements for high read/write performance and fast data access.

This document describes how to use application programming interfaces (APIs) to perform operations on DCS, such as creating, deleting, and scaling up DCS instances. For details about all supported operations, see **API Overview**.

If you plan to access DCS instances by calling an API, ensure that you are familiar with DCS basic concepts.

NOTICE

- Some APIs are supported only in certain regions.
- DCS is continuously upgraded with new functions, and the existing APIs are inevitably adjusted. For example, new response parameters may be added.
- To reduce the impact of API changes, DCS is backward compatible with APIs when possible. However, when you use DCS, you should accept and ignore unused parameters and parameter values in returned content (in JSON format).

1.2 API Calling

DCS support Representational State Transfer (REST) APIs, allowing you to call APIs using HTTPS. For details about API calling, see **Calling APIs**.

1.3 Endpoints

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

1.4 Concepts

- Account

  An account is created upon successful registration. The account has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions. The account is a payment entity, which should not be used directly to perform routine management. To ensure account security, create Identity and Access Management (IAM) users and grant them permissions for routine management.

- IAM user

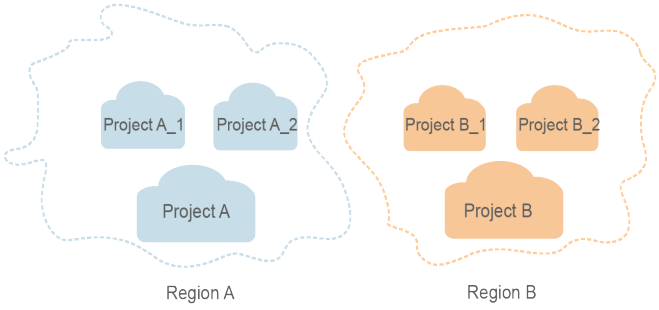
  An IAM user is created using an account to use cloud services. Each IAM user has its own identity credentials (password and access keys).

  The account name, username, and password will be required for API authentication.

- Regions are geographic areas isolated from each other. Resources are region-specific and cannot be used across regions through internal network connections. For low network latency and quick resource access, select the nearest region.
- AZs are physically isolated locations in a region, but are interconnected through an internal network for enhanced application availability.
- Project

  Projects group and isolate resources (including compute, storage, and network resources) across physical regions. A default project is provided for each region, and subprojects can be created under each default project. Users can be granted permissions to access all resources in a specific project. For more refined access control, create subprojects under a project and purchase resources in the subprojects. Users can then be assigned permissions to access only specific resources in the subprojects.

  Figure 1-1 Project isolating model



2 API Overview

Table 2-1 APIs provided by DCS

Type	Description
Lifecycle Management APIs	Create, query, delete, modify, and scale instances.
Instance Management APIs	Restart instances, query instance status, change passwords, and query instance statistics.
Parameter Management APIs	Query and modify instance configuration parameters.
Backup and Restoration APIs	Back up and restore instances, and view backup and restoration records.
Other APIs	Query AZ information, product specifications, and maintenance time window.

3 Calling APIs

3.1 Making an API Request

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

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 Parameters in a URI

Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS.
Endpoint	Domain name or IP address of the server bearing the REST service endpoint. The endpoint varies between services in different regions. It can be obtained from **Regions and Endpoints**. For example, the endpoint of IAM in the **ae-ad-1** region is **iam.ae-ad-1.myhuaweicloud.com**.
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the **resource-path** of the API used to obtain a user token is **/v3/auth/tokens**.

Parameter	Description
query-string	Query parameter, which is optional. 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.

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:

- **GET**: requests the server to return specified resources.
- **PUT**: requests the server to update specified resources.
- **POST**: requests the server to add resources or perform special operations.
- **DELETE**: requests the server to delete specified resources, for example, an object.
- **HEAD**: same as GET except that the server must return only the response header.
- **PATCH**: requests a server to update a part of a specified resource. If the resource does not exist, a new resource will be created.

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

```
POST https://iam.ae-ad-1.myhuaweicloud.com/v3/auth/tokens
```

Request Header

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

Common request headers are as follows:

- **Content-Type**: specifies the request body type or format. This field is mandatory and its default value is **application/json**. Other values of this field will be provided for specific APIs if any.
- **X-Auth-Token**: specifies a user token only for token-based API authentication. The user token is a response to the API used to obtain a user token. This API is the only one that does not require authentication.

> **NOTE**
>
> In addition to supporting token-based authentication, also support authentication using access key ID/secret access key (AK/SK). During AK/SK-based authentication, an SDK is used to sign the request, and the **Authorization** (signature information) and **X-Sdk-Date** (time when the request is sent) header fields are automatically added to the request.
>
> For details, see **AK/SK-based 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.ae-ad-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json
```

Request Body

The body of a request is often sent in a structured format as specified in the **Content-Type** header field. The request body transfers content except the request header.

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

In the case of the API used to obtain a user token, the request parameters and parameter description can be obtained from the API request. The following provides an example request with a body included. Replace *username*, *domainname*, ******** (login password), and *xxxxxxxxxxxxxxxxx* (project ID) with the actual values. Obtain the project ID 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.ae-ad-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json

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

```
    }
}
```

If all data required by a request is available, you can send the request to call an 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:

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

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 can obtain a token by calling the API used to obtain a user token. A project-level token is required for calling APIs of DCS. To obtain such a project-level token, set **auth.scope** to the project name in the request body for calling the API used to obtain a user token.

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

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.ae-ad-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

AK/SK-based Authentication

NOTE

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

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

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

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

NOTICE

The signature SDK only supports signature, which is different from the SDKs provided by services.

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 request. For more information, see **Status Codes**.

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

Response Header

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

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

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

Response Body

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

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

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

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": "111400060",
        "message": "instance name exists."
    }
}
```

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

4 Lifecycle Management APIs

4.1 Creating a DCS Instance

Function

This API is used to create a DCS instance.

URI

POST /v1.0/{project_id}/instances

Table 4-1 describes the parameter.

Table 4-1 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID. For details on how to obtain the value of this parameter, see **Obtaining a Project ID**.

Request

Request parameters

Table 4-2 describes the request parameters.

Table 4-2 Parameter description

Parameter	Type	Mandatory	Description
name	String	Yes	DCS instance name. An instance name is a string of 4 to 64 characters that contain letters, digits, underscores (_), and hyphens (-) and must start with a letter.
description	String	No	Brief description of the DCS instance. The description supports up to 1024 characters. **NOTE** The backslash (\) and quotation mark (") are special characters for JSON messages. When using these characters in a parameter value, add the escape character (\) before the characters, for example, **** and **\"**.
engine	String	Yes	Cache engine. Value: **Redis**.
engine_version	String	Yes	Cache engine version. If the cache engine is Redis, the value can be **3.0**, **4.0**, or **5.0**.
capacity	Integer	Yes	Cache capacity. Unit: GB. • For a single-node or master/standby DCS Redis 3.0 instance, the value can be **2**, **4**, **8**, **16**, **32**, or **64**. For a Proxy Cluster DCS Redis 3.0 instance, the value can be **64**, **128**, **256**, **512**, or **1024**. • For a single-node or master/standby DCS Redis 4.0 or 5.0 instance, the value can be **0.125**, **0.25**, **0.5**, **1**, **2**, **4**, **8**, **16**, **32**, or **64**. For a Redis Cluster DCS Redis 4.0 or 5.0 instance, the value can be **4**, **8**, **16**, **24**, **32**, **48**, **64**, **96**, **128**, **192**, **256**, **384**, **512**, **768**, or **1024**.

Parameter	Type	Mandatory	Description
password	String	No	Password of a DCS instance. **NOTE** If **no_password_access** is set to **false** or not set, the request must contain the **password** parameter. The password of a DCS Redis instance must meet the following complexity requirements: ● Must be a string consisting of 8 to 32 characters. ● Must be different from the old password. ● Contains at least three of the following character types: – Lowercase letters – Uppercase letters – Digits – Special characters (`~!@#$%^&*()-_=+|[{}]:'",<.>/?)
access_user	String	No	If the cache engine is Redis, you do not need to set this parameter. If the cache engine is Memcached, this parameter is available only when **no_password_access** is set to **false**, indicating that you need to access the DCS instance in password mode. A username is a string of 1 to 64 characters that can only contain letters, digits, underscores (_), and hyphens (-) and must start with a letter. **NOTE** ● If the cache engine is Redis, you do not need to set this parameter.
vpc_id	String	Yes	VPC ID. Obtain the value by using either of the following methods: ● Method 1: Log in to VPC console and view the VPC ID in the VPC details. ● Method 2: Call the API for querying VPCs. For details, see the "Querying VPCs" section in the *Virtual Private Cloud API Reference*.

Parameter	Type	Mandatory	Description
security_group_id	String	Yes	ID of the security group which the instance belongs to. Obtain the value by using either of the following methods: • Method 1: Log in to VPC console. Choose **Access Control** > **Security Groups** in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page. • Method 2: Call the API for querying security groups. For details, see the "Querying Security Groups" section in the *Virtual Private Cloud API Reference*.
subnet_id	String	Yes	Network ID of the subnet. Obtain the value by using either of the following methods: • Method 1: Log in to VPC console and click the target subnet on the **Subnets** tab page. You can view the network ID on the displayed page. • Method 2: Call the API for querying subnets. For details, see the "Querying Subnets" section in the *Virtual Private Cloud API Reference*.
available_zones	Array	Yes	ID of the AZ where the cache node resides and which has available resources. For details on how to obtain the value, see **Querying AZ Information**. Check whether the AZ has available resources. Master/Standby, Proxy Cluster, and Redis Cluster DCS instances support cross-AZ deployment. You can specify an AZ for the standby node. When specifying AZs for nodes, use commas (,) to separate multiple AZs. For details, see the example request.
product_id	String	Yes	ID of the product that can be created. For details, see **Querying Service Specifications**.
instance_backup_policy	JSON	No	Backup policy. This parameter is available for master/standby and cluster DCS instances. For details, see **Table 4-3** and **Table 4-4**.

Parameter	Type	Mandatory	Description
maintain_begin	String	No	Time at which the maintenance time window starts. Format: HH:mm:ss. • The start time and end time of the maintenance time window must indicate the time segment of a supported maintenance time window. For details on how to query the time segments of supported maintenance time windows, see **Querying Maintenance Time Window**. • The start time must be set to 22:00:00, 02:00:00, 06:00:00, 10:00:00, 14:00:00, or 18:00: 00. • Parameters **maintain_begin** and **maintain_end** must be set in pairs. If parameter **maintain_start** is left blank, parameter **maintain_end** is also blank. In this case, the system automatically set the start time to 02:00:00.
maintain_end	String	No	Time at which the maintenance time window ends. Format: HH:mm:ss. • The start time and end time of the maintenance time window must indicate the time segment of a supported maintenance time window. For details on how to query the time segments of supported maintenance time windows, see **Querying Maintenance Time Window**. • The end time is four hours later than the start time. For example, if the start time is 22:00:00, the end time is 02:00:00. • Parameters **maintain_begin** and **maintain_end** must be set in pairs. If parameter **maintain_end** is left blank, parameter **maintain_start** is also blank. In this case, the system automatically set the end time to 06:00:00.

Table 4-3 instance_backup_policy parameter description

Parameter	Type	Mandatory	Description
save_days	Integer	No	This parameter is mandatory when **backup_type** is set to **manual**. Retention period. Unit: day. Value range: 1–7.
backup_type	String	No	Backup type. Options: • **auto**: automatic backup. • **manual**: manual backup. The default value is **manual**.
periodical_backup_plan	JSON	Yes	Backup plan. For details, see **Table 4-4**.

Table 4-4 periodical_backup_plan parameter description

Parameter	Type	Mandatory	Description
begin_at	String	Yes	Time at which backup starts. "00:00-01:00" indicates that backup starts at 00:00:00.
period_type	String	Yes	Interval at which backup is performed. Currently, only weekly backup is supported.
backup_at	Array	Yes	Day in a week on which backup starts. Value range: 1–7, where **1** indicates Monday and **7** indicates Sunday.
timezone_offset	String	No	Time zone in which backup is performed. Value range: GMT–12:00 to GMT+12:00. If this parameter is left blank, the current time zone of the DCS-Server VM is used by default.

Example request

Request URL:

```
POST https://{dcs_endpoint}/v1.0/{project_id}/instances
```

- Example:

```
{
   "name": "dcs-a11e",
   "description": "Create a instance",
   "engine": "Redis",
   "engine_version": "3.0",
   "capacity": 2,
   "password": "XXXXXX",
   "vpc_id": "27d99e17-42f2-4751-818f-5c8c6c03ff15",
   "security_group_id": "1477393a-29c9-4de5-843f-18ef51257c7e",
   "subnet_id": "ec2f34b9-20eb-4872-85bd-bea9fc943128",
   "available_zones":
["ae04cf9d61544df3806a3feeb401b204","d573142f24894ef3bd3664de068b44b0"],
   "product_id": "XXXXXX",
   "instance_backup_policy": {
      "save_days": 1,
      "backup_type": "auto",
      "periodical_backup_plan": {
         "begin_at": "00:00-01:00",
         "period_type": "weekly",
         "backup_at": [
            1,
            2,
            3,
            4,
            5,
            6,
            7
         ]
      }
   },
   "maintain_begin": "22:00:00",
   "maintain_end": "02:00:00"
}
```

- Example:

  Creating a DCS Redis instance

```
{
   "name": "dcs-APITest",
   "description": "Test",
   "engine": "Redis",
   "engine_version": "3.0",
   "capacity": 2,
   "enterprise_project_id": "0",
   "enterprise_project_name": "default",
   "no_password_access": false,
   "access_user": "",
   "password": "********",
   "vpc_id": "0402ea19-5457-4032-9d1b-eb48b98f6c66",
   "security_group_id": "4b95a790-5cfc-463d-8de5-42199e55371c",
   "subnet_id": "a3bd29e4-d5bc-414c-a79a-1f35ee4ead88",
   "available_zones": [
      "12c47a78666b4e438cd0c692b9860387"
   ],
   "maintain_begin": "02:00",
   "maintain_end": "06:00",
   "product_id": "dcs.master_standby-h",

   "instance_num": 1
}
```

Response

Response parameters

Table 4-5 describes the response parameters.

Table 4-5 Parameter description

Parameter	Type	Description
instance_id	String	DCS instance ID.
instances	JSON	DCS instance list. For details, see **Table 4-6**.

Table 4-6 instances parameters

Parameter	Type	Description
instance_id	String	DCS instance ID.
instance_name	String	DCS instance name.

Example response

```
{
   "instances": [
      {
         "instance_id": "3c49fd6b-fc7c-419e-9644-b6cce008653f",
         "instance_name": "dcs-test005"
      }
   ],
   "instance_id": "3c49fd6b-fc7c-419e-9644-b6cce008653f"
}
```

Status Code

Table 4-7 describes the status code of successful operations. For details about other status codes, see **Table 9-1**.

Table 4-7 Status code

Status Code	Description
200	DCS instance created successfully.

4.2 Deleting a Single DCS Instance

Function

This API is used to delete a specified DCS instance to free up all resources occupied by the DCS instance.

URI

DELETE /v1.0/{project_id}/instances/{instance_id}

Table 4-8 describes the parameter.

Table 4-8 Parameter description

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

Request

Request parameters

None

Example request

Request URL:

```
DELETE https://{dcs_endpoint}/v1.0/{project_id}/instances/{instance_id}
```

Response

Response parameters

None

Example response

None

Status Code

Table 4-9 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 4-9 Status code

Status Code	Description
204	DCS instances deleted successfully.

4.3 Batch Deleting DCS Instances

Function

This API is used to delete multiple DCS instances at a time.

URI

DELETE /v1.0/{project_id}/instances?allFailure={allFailure}

Table 4-10 describes the parameters.

Table 4-10 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID.
allFailure	String	No	An indicator of whether all DCS instances failed to be created will be deleted. Options: Options: • **true**: all instances that fail to be created are deleted. In this case, the **instances** parameter in the request can be empty. • **false** or other values: The DCS instances specified by the instances parameter in the API request will be deleted.

Request

Request parameters

Table 4-11 describes the request parameters.

Table 4-11 Parameter description

Parameter	Type	Mandatory	Description
instances	Array	No	IDs of DCS instances to be deleted. This parameter is set only when the **allFailure** parameter in the URI is set to **false** or another value. A maximum of 50 instances can be deleted at a time.

Request URL:

```
DELETE https://{dcs_endpoint}/v1.0/{project_id}/instances?allFailure={allFailure}
```

Example request with **allFailure** set to **false**:

```
{
   "instances": [
```

```
    "54602a9d-5e22-4239-9123-77e350df4a34",
    "7166cdea-dbad-4d79-9610-7163e6f8b640"
  ]
}
```

Response

Response parameters

If the value of the **allFailure** parameter in the URI is **true**, all DCS instances that the tenant specified by **project_id** that failed to create are deleted and an empty response is then returned. If the value of the **allFailure** parameter in the URI is **false**, the DCS instances specified by the **instances** parameter in the API request are deleted and a response containing the parameter in **Table 4-12** is then returned.

Table 4-12 Parameter description

Parameter	Type	Description
results	Array	For details about how to delete an instance, see **Table 4-13**.

Table 4-13 results parameter description

Parameter	Type	Description
instance	String	DCS instance ID.
result	String	Instance deletion result. Options: **success** and **failed**

Example response

```
{
  "results": [
    {
      "instance": "54602a9d-5e22-4239-9123-77e350df4a34",
      "result": "success"
    },
    {
      "instance": "7166cdea-dbad-4d79-9610-7163e6f8b640",
      "result": "success"
    }
  ]
}
```

Status Code

Table 4-14 describes the status code of successful operations. For details about other status codes, see **Table 9-1**.

Table 4-14 Status codes

Status Code	Description
200	DCS instances deleted successfully.
204	DCS instances that failed to be created are cleared successfully.

4.4 Querying a DCS Instance

Function

This API is used to query the details about a specified DCS instance.

URI

GET /v1.0/{project_id}/instances/{instance_id}

Table 4-15 describes the parameters.

Table 4-15 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	For details on how to obtain the value of this parameter, see **Obtaining a Project ID**.
instance_id	String	Yes	ID of the instance to be queried

Request

Request parameters

None

Example request

Request URL:

```
GET https://{dcs_endpoint}/v1.0/{project_id}/instances/{instance_id}
```

Response

Response parameters

Table 4-16 describes the response parameters.

Table 4-16 Parameter description

Parameter	Type	Description
name	String	DCS instance name.
engine	String	DCS instance engine.
capacity	Integer	DCS instance cache capacity. Unit: GB.
ip	String	IP address for connecting to the DCS instance For a cluster instance, multiple IP addresses are returned and separated by commas (,). For example, 192.168.0.1,192.168.0.2.
port	Integer	Port number of the cache node.
status	String	Cache instance status. For details about status, see **DCS Instance Statuses**.
description	String	Brief description of the DCS instance.
max_memory	Integer	Total memory size. Unit: MB.
used_memory	Integer	Size of the used memory. Unit: MB.
instance_id	String	DCS instance ID.
engine_version	String	Cache engine version.
internal_version	String	Internal DCS version.
charging_mode	Integer	Billing mode. **0**: pay-per-use.
vpc_id	String	VPC ID.
vpc_name	String	VPC name.
created_at	String	Time at which the DCS instance is created. For example, 2017-03-31**T**12:24:46.297**Z**.
error_code	String	Error code returned when the DCS instance fails to be created or is abnormal. For details about error codes, see **Error Codes**.
user_id	String	User ID.
user_name	String	Username.
maintain_begin	String	Time at which the maintenance time window starts. Format: HH:mm:ss.

Parameter	Type	Description
maintain_end	String	Time at which the maintenance time window ends. Format: HH:mm:ss.
available_zones	Array	AZ where a cache node resides. The value of this parameter in the response contains an AZ ID.
subnet_id	String	Subnet ID.
security_group_id	String	Security group ID.
backend_addrs	String	Backend address of a cluster instance.
product_id	String	Product ID.
security_group_name	String	Security group name.
subnet_name	String	Subnet name.
subnet_cidr	String	Subnet segment.
order_id	String	Order ID.
instance_backup_policy	JSON	Backup policy. This parameter is available for master/standby and cluster DCS instances. For details, see **Table 4-3** and **Table 4-4**.

Example response

```
{
    "name": "dcs-a11e",
    "engine": "Redis",
    "capacity": 2,
    "ip": "192.168.3.100",
    "port": 6379,
    "status": "RUNNING",
    "description": "Create a instance",
    "instance_id": "68d5745e-6af2-40e4-945d-fe449be00148",
    "resource_spec_code": "dcs.single_node",
    "engine_version": "3.0",
    "internal_version": null,
    "charging_mode": 0,
    "vpc_id": "27d99e17-42f2-4751-818f-5c8c6c03ff15",
    "vpc_name": "vpc_4944a40e-ac57-4f08-9d38-9786e2759458_192",
    "created_at": "2017-03-31T12:24:46.297Z",
    "error_code": null,
    "product_id": "XXXXXX",
    "security_group_id": "60ea2db8-1a51-4ab6-9e11-65b418c24583",
    "security_group_name": "sg_6379_4944a40e-ac57-4f08-9d38-9786e2759458",
    "subnet_id": "ec2f34b9-20eb-4872-85bd-bea9fc943128",
    "subnet_name": "subnet_az_7f336767-10ec-48a5-9ae8-9cacde119318",
    "available_zones": [
        "1d7b939b382c4c3bb3481a8ca10da785"
    ],
```

```
    "max_memory": 460,
    "used_memory": 56,
    "user_id": "6d0977e4c9b74ae7b5a083a8d0d8fafa",
    "user_name": "liutao02",
    "order_id": "XXXXXX",
    "maintain_begin": "22:00:00",
    "maintain_end": "02:00:00"
}
```


Status Code

Table 4-17 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 4-17 Status code

Status Code	Description
200	Specified instance queried successfully.

4.5 Querying All DCS Instances of a Tenant

Function

This API is used to query DCS instances of a tenant, and allows you to specify query criteria.

URI

GET /v1.0/{project_id}/instances?start={start}&limit={limit}&name={name}&status={status}&id={id}&includeFailure={includeFailure}&isExactMatchName={isExactMatchName}

Table 4-18 describes the parameters.

Table 4-18 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID.
start	Integer	No	Start number for querying DCS instances. It cannot be lower than 1. By default, the start number is 1.

Parameter	Type	Mandatory	Description
limit	Integer	No	Number of DCS instances displayed on each page. Minimum value: **1** Maximum value: **2000** If this parameter is left unspecified, a maximum of 1000 DCS instances are displayed on each page.
name	String	No	DCS instance name.
id	String	No	Instance ID.
status	String	No	DCS instance status. For details about status, see **DCS Instance Statuses**.
includeFailure	String	No	An indicator of whether the number of DCS instances that failed to be created will be returned to the API caller. Options: • **true**: The number of DCS instances that failed to be created will be returned to the API caller. • **false** or others: The number of DCS instances that failed to be created will not be returned to the API caller.
isExactMatchName	String	No	An indicator of whether to perform an exact or fuzzy match based on instance name. Options: • **true**: exact match • **false**: fuzzy match Default value: **false**.

Example

```
GET https://{dcs_endpoint}/v1.0/bd6b78e2ff9e4e47bc260803ddcc7a21/instances?start=1&limit=10&name=&status=&id=&includeFailure=true&isExactMatchName=false
```

Request

Request parameters

None

Example request

None

Response

Response parameters

Table 4-19 describes the response parameters.

Table 4-19 Parameter description

Parameter	Type	Description
instances	Array	Array of DCS instance details.
instance_num	Integer	Number of DCS instances.

Table 4-20 Parameter description of the instance array

Parameter	Type	Description
name	String	DCS instance name.
engine	String	Cache engine.
capacity	Integer	Cache capacity. Unit: GB.
ip	String	IP address for connecting to the DCS instance For a cluster instance, multiple IP addresses are returned and separated by commas (,). For example, 192.168.0.1,192.168.0.2.
port	Integer	Port number of the cache node.
status	String	Cache instance status. For details about status, see **DCS Instance Statuses**.
max_memory	Integer	Overall memory size. Unit: MB.
used_memory	Integer	Size of the used memory. Unit: MB.
instance_id	String	DCS instance ID.
engine_version	String	Cache engine version.
internal_version	String	Internal DCS version.
charging_mode	Integer	Billing mode. **0**: pay-per-use.
capacity_minor	String	Small-scale cache capacity. Unit: GB.
vpc_id	String	VPC ID.

Parameter	Type	Description
vpc_name	String	VPC name.
created_at	String	Time at which the DCS instance is created. For example, 2017-03-31**T**12:24:46.297**Z**.
error_code	String	Error code returned when the DCS instance fails to be created or is abnormal. For details about error codes, see **Error Codes**.
user_id	String	User ID.
user_name	String	Username.
maintain_begin	String	Time at which the maintenance time window starts. Format: HH:mm:ss.
maintain_end	String	Time at which the maintenance time window ends. Format: HH:mm:ss.
security_group_id	String	Security group name.

Example response

```
{
   "instances": [
      {
         "name": "dcs-lxy",
         "engine": "Redis",
         "capacity": 4,
         "ip": "192.168.7.146",

         "port": 6379,
         "status": "CREATING",
         "max_memory": 3277,
         "used_memory": 0,
         "instance_id": "a4d31cb6-3d72-4fdc-8ec9-6e3a41e47f71",
          "resource_spec_code": "dcs.master_standby",
         "engine_version": "3.0",
         "internal_version": null,
         "charging_mode": 0,
         "capacity_minor": null,
         "vpc_id": "c71d9731-9b0c-43e9-ab2a-716af9d9fd55",
         "vpc_name": "CCE-AutoCreate-VPC-7qvs1",
         "created_at": "2019-09-23T02:40:06.123Z",
         "error_code": null,
         "user_id": "50a4156d334a4a82b8745dc730dc1e00",
         "user_name": "hwstaff_f00443635",
         "maintain_begin": "02:00:00",
         "maintain_end": "06:00:00",
         "security_group_id": "0cc8fdb7-872a-49da-a062-88ccc39463b5"
      }],
   "instance_num": 1
}
```

Status Code

Table 4-21 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 4-21 Status code

Status Code	Description
200	All DCS instances of the tenant queried successfully.

4.6 Modifying Information About a DCS Instance

Function

This API is used to modify the information about a DCS instance, including the instance name, description, backup policy, start and end time of the maintenance window, and security group.

URI

PUT /v1.0/{project_id}/instances/{instance_id}

Table 4-22 describes the parameters.

Table 4-22 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID.
instance_id	String	Yes	DCS instance ID.

Request

Request parameters

Table 4-23 describes the request parameters.

Table 4-23 Parameter description

Parameter	Type	Mandatory	Description
name	String	No	DCS instance name. An instance name is a string of 4 to 64 characters that contain letters, digits, underscores (_), and hyphens (-) and must start with a letter.
description	String	No	Brief description of the DCS instance. A brief description supports up to 1024 characters. **NOTE** "\" is defined as an escape character in the queue description. If you need to enter a backward slash (\) or a double quotation mark (") in the queue description, enter **** or **\"**.
instance_backup_policy	JSON	No	Backup policy. This parameter is available for master/standby and cluster DCS instances. For details, see **Table 4-3** and **Table 4-4**.
maintain_begin	String	No	Time at which the maintenance time window starts. Format: HH:mm:ss. • The start time and end time of the maintenance time window must indicate the time segment of a supported maintenance time window. For details on how to query the time segments of supported maintenance time windows, see **Querying Maintenance Time Window**. • The start time must be set to 22:00:00, 02:00:00, 06:00:00, 10:00:00, 14:00:00, or 18:00: 00. • Parameters **maintain_begin** and **maintain_end** must be set in pairs. If parameter **maintain_begin** is left blank, parameter **maintain_end** is also blank.

Parameter	Type	Mandatory	Description
maintain_end	String	No	Time at which the maintenance time window ends. Format: HH:mm:ss. • The start time and end time of the maintenance time window must indicate the time segment of a supported maintenance time window. For details on how to query the time segments of supported maintenance time windows, see **Querying Maintenance Time Window**. • The end time is four hours later than the start time. For example, if the start time is 22:00:00, the end time is 02:00:00. • Parameters **maintain_begin** and **maintain_end** must be set in pairs. If parameter **maintain_end** is left blank, parameter **maintain_start** is also blank.
security_group_id	String	No	Security group ID. The value can be obtained from the VPC console or the API.

Example request

Request URL:

```
PUT https://{dcs_endpoint}/v1.0/{project_id}/instances/{instance_id}
```

- Example 1

```
{
   "description": "instance description"
}
```

- Example 2

```
{
   "name": "dcs002",
   "description": "instance description",
   "instance_backup_policy": {
      "backup_type": "auto",
      "save_days": 1,
      "periodical_backup_plan": {
         "begin_at": "00:00-01:00",
         "period_type": "weekly",
         "backup_at": [
            "1",
            "2",
            "3",
            "4",
            "6",
            "7"
```

```
            ]
        }
    },
    "security_group_id": "18e9309f-f81a-4749-bb21-f74576292162",
    "maintain_begin": "02:00:00",
    "maintain_end": "06:00:00"
}
```

Response

Response parameters

None

Example response

None

Status Code

Table 4-24 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 4-24 Status code

Status Code	Description
204	DCS instance modified successfully.

4.7 Scaling Up a DCS Instance

Function

This API is used to scale up a DCS Redis instance in the **Running** state.

URI

POST /v1.0/{project_id}/instances/{instance_id}/extend

Table 4-25 describes the parameters.

Table 4-25 Parameter description

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

Request

Request parameters

Table 4-26 describes the request parameters.

Table 4-26 Parameter description

Parameter	Type	Mandatory	Description
new_capacity	Integer	Yes	New specification (memory space) of the DCS instance. The new specification to which the DCS instance will be scaled up must be greater than the current specification. Unit: GB. The value must be supported specifications. For details, see the **Total Memory (GB)** column in the "DCS Instance Specifications" section in the *User Guide*.

Example request

```
POST https://{dcs_endpoint}/v1.0/{project_id}/instances/{instance_id}/extend
```

```
{
   "new_capacity": 4
}
```

Response

Response parameters

None

Example response

None

Status Code

Table 4-27 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 4-27 Status code

Status Code	Description
204	DCS instance scaled up successfully.

5 Instance Management APIs

5.1 Restarting DCS Instances or Clearing DCS Instance Data

Function

This API is used to restart a running DCS instance.

Data clearance operations cannot be undone on DCS Redis 4.0 and 5.0 instances.

URI

PUT /v1.0/{project_id}/instances/status

Table 5-1 describes the parameter.

Table 5-1 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID.

Request

Request parameters

Table 5-2 describes the request parameters.

Table 5-2 Parameter description

Parameter	Type	Mandatory	Description
action	String	Yes	Action performed on DCS instances. Options: **restart**, and **flush**. **NOTE** Only DCS Redis 4.0 and 5.0 instances can be flushed.
instances	Array	Yes	List of DCS instance IDs.

Example request

```
PUT https://{dcs_endpoint}/v1.0/{project_id}/instances/status
```

```
{
   "action": "restart",
   "instances": [
      "2e803f66-fbb0-47ad-b6cb-fb87f5bed4ef"
   ]
}
```

Response

Response parameters

Table 5-3 describes the response parameter.

Table 5-3 Parameter description

Parameter	Type	Description
results	Array	Indicates the result of instance modification.

Table 5-4 results parameter description

Parameter	Type	Description
instance	String	DCS instance ID.
result	String	Instance modification result. Options: **success** or **failed**

Example response

```
{
   "results": [
      {
         "result": "success",
         "instance": "2e803f66-fbb0-47ad-b6cb-fb87f5bed4ef"
      }
```

```
  ]
}
```

Status Code

Table 5-5 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 5-5 Status code

Status Code	Description
200	Successfully restarted DCS instance or cleared DCS instance data.

5.2 Querying Statistics of All Running Instances

Function

This API is used to query the statistics of all DCS instances that are in the **Running** state.

URI

GET /v1.0/{project_id}/instances/statistic

Table 5-6 describes the parameter.

Table 5-6 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID

Request

Request parameters

None.

Example request

```
GET https://{dcs_endpoint}/v1.0/{project_id}/instances/statistic
```

Response

Response parameters

Table 5-7 describes the response parameter.

Table 5-7 Parameter description

Parameter	Type	Description
statistics	Array	Statistics of all instances in the **Running** state. For details, see **Table 5-8**.

Table 5-8 statistics parameter description

Parameter	Type	Description
keys	Integer	Number of cached data records
instance_id	String	DCS instance ID
used_memory	Integer	Size of the used memory in MB
max_memory	Integer	Overall memory size in MB.
cmd_get_count	Integer	Number of times the GET command is run
cmd_set_count	Integer	Number of times the SET command is run
used_cpu	String	Percentage of CPU usage
input_kbps	String	Incoming traffic (kbit/s) of the DCS instance
output_kbps	String	Outgoing traffic (kbit/s) of the DCS instance

Example response

```
{
   "statistics" : [{
         "keys" : 0,
         "instance_id" : "e008652d-18e0-43ff-924e-072261e0372a",
         "used_memory" : 0,
         "max_memory" : 460,
         "cmd_get_count" : 0,
         "cmd_set_count" : 0,
         "used_cpu" : "0.0",
         "input_kbps" : "0.0",
         "output_kbps" : "0.0"
      }, {
         "keys" : 0,
         "instance_id" : "c577a1eb-33b7-42c7-8231-ad32358599ac",
         "used_memory" : 0,
         "max_memory" : 460,
         "cmd_get_count" : 0,
         "cmd_set_count" : 0,
         "used_cpu" : "0.0",
         "input_kbps" : "0.0",
         "output_kbps" : "0.0"
      }, {
         "keys" : 0,
```

```
        "instance_id" : "e8b98471-55d5-4695-b0bb-8f336a98e207",
        "used_memory" : 0,
        "max_memory" : 460,
        "cmd_get_count" : 0,
        "cmd_set_count" : 0,
        "used_cpu" : "0.0",
        "input_kbps" : "0.03",
        "output_kbps" : "1.19"
    }, {
        "keys" : 0,
        "instance_id" : "bc61c690-4b34-4cbe-9ce3-11246aea7aba",
        "used_memory" : 0,
        "max_memory" : 6963,
        "cmd_get_count" : 0,
        "cmd_set_count" : 0,
        "used_cpu" : "0.0",
        "input_kbps" : "0.0",
        "output_kbps" : "0.0"
    }
  ]
}
```


Status Code

Table 5-9 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 5-9 Status code

Status Code	Description
200	Statistics of all instances queried successfully.

5.3 Querying DCS Instance Status

Function

This API is used to query the number of instances in different states.

URI

GET /v1.0/{project_id}/instances/status?includeFailure={includeFailure}

Table 5-10 describes the parameters.

Table 5-10 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID.

Parameter	Type	Mandatory	Description
includeFailure	String	No	An indicator of whether the number of DCS instances that failed to be created will be returned to the API caller. Options: • **true**: The number of DCS instances that failed to be created will be returned to the API caller. • **false** or others: The number of DCS instances that failed to be created will not be returned to the API caller.

Request

Request parameters

None.

Example request

```
GET https://{dcs_endpoint}/v1.0/{project_id}/instances/status?includeFailure=true
```

Response

Response parameters

Table 5-11 describes the response parameters.

Table 5-11 Parameter description

Parameter	Type	Description
creating_count	Integer	Number of instances that are being created.
deleting_count	Integer	Number of instances that are being deleted.
running_count	Integer	Number of running instances.
error_count	Integer	Number of abnormal instances.
restarting_count	Integer	Number of instances that are being restarted.
createfailed_count	Integer	Number of instances that fail to be created.

Parameter	Type	Description
extending_count	Integer	Number of instances that are being scaled up.

Example response

```
{
    "extending_count": 0,
    "creating_count": 0,
    "deleting_count": 0,
    "running_count": 16,
    "error_count": 0,
    "restarting_count": 0,
    "createfailed_count": 44
}
```

Status Code

Table 5-12 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 5-12 Status code

Status Code	Description
200	Quantities of DCS instances in different statuses queried successfully.

5.4 Changing the Password of a DCS Instance

Function

This API is used to change the password of a DCS instance.

URI

PUT /v1.0/{project_id}/instances/{instance_id}/password

Table 5-13 describes the parameters.

Table 5-13 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID.
instance_id	String	Yes	DCS instance ID.

Request

Request parameters

Table 5-14 describes the request parameters.

Table 5-14 Parameter description

Parameter	Type	Mandatory	Description
old_password	String	Yes	Old password.
new_password	String	Yes	New password. Password complexity requirements: • Cannot be empty. • Cannot be the username or the username spelled backwards. • Can be 8 to 32 characters long. • Contain at least three of the following character types: – Lowercase letters – Uppercase letters – Digits – Special characters (`~!@#$^&*()-_=+|{};,<.>/?)

Example request

```
PUT https://{dcs_endpoint}/v1.0/{project_id}/instances/{instance_id}/password
```

```
{
   "old_password": "XXXXXX",
   "new_password": "XXXXXX"
}
```

Response

Response parameters

Table 5-15 describes the response parameters.

Table 5-15 Parameter description

Parameter	Type	Description
result	String	An indicator of whether the password is successfully changed: Options: • **Success**: Password changed successfully. • **passwordFailed**: The old password is incorrect. • **Locked**: This account has been locked. • **Failed**: Failed to change the password.
message	String	Result of password change.
retry_times_left	String	Number of remaining password attempts. If the old password is incorrect, the value of this parameter is not **null**.
lock_time	String	Account lockout duration. If the old password is incorrect or the account is locked, the value of this parameter is not **null**.
lock_time_left	String	Remaining time before the account is unlocked. If the account is locked, the value of this parameter is not **null**.

Example response

```
//Change password sucessful.
{
   "result" : "success",
   "message" : "Modify DCSInstance password success.",
   "retry_times_left" : "5",
   "lock_time" : "0",
   "lock_time_left" : "0"
}
//Change password failed.
{
   "result" : "passwordFailed",
   "message" : "verify password failed.",
   "retry_times_left" : "4",
   "lock_time" : "5",
   "lock_time_left" : "5"
}
```

Status Code

Table 5-16 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 5-16 Status code

Status Code	Description
200	Password changed successfully.

6 Parameter Management APIs

6.1 Modifying Configuration Parameters

Function

You can modify the configuration parameters of your DCS instance to optimize DCS performance based on your requirements.

URI

PUT /v1.0/{project_id}/instances/{instance_id}/configs

Table 6-1 describes the parameters.

Table 6-1 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID.
instance_id	String	Yes	ID of the instance to be modified.

Request

Request parameters

Table 6-2 describes the request parameters.

Table 6-2 Parameter description

Parameter	Type	Mandatory	Description
redis_config	Array	Yes	Array of configuration items of the DCS instance.

Table 6-3 redis_config parameter description

Parameter	Type	Mandatory	Description
param_id	String	Yes	Configuration item ID.
param_name	String	Yes	Configuration item name.
param_value	String	Yes	Value of the configuration item.

For possible values of parameters in **Table 6-3**, see **Table 6-8**.

Example request

```
PUT https://{dcs_endpoint}/v1.0/{project_id}/instances/{instance_id}/configs
```

```
{
   "redis_config": [
      {
         "param_id": "1",
         "param_name": "timeout",
         "param_value": "100"
      }
   ]
}
```

Response

Response parameters

None

Example response

None

Status Code

Table 6-4 describes the status code of successful operations. For details about other status codes, see **Table 9-1**.

Table 6-4 Status code

Status Code	Description
204	DCS instance configurations modified successfully.

6.2 Querying Configuration Parameters

Function

This API is used to query the configuration parameters of a DCS instance.

URI

GET /v1.0/{project_id}/instances/{instance_id}/configs

Table 6-5 describes the parameters.

Table 6-5 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID
instance_id	String	Yes	ID of the instance to be queried

Request

Request parameters

None

Example request

```
GET https://{dcs_endpoint}/v1.0/{project_id}/instances/{instance_id}/configs
```

Response

Response parameters

Table 6-6 describes the response parameters.

Table 6-6 Parameter description

Parameter	Type	Description
status	String	Current status of a DCS instance.
instance_id	String	DCS instance ID.

Parameter	Type	Description
redis_config	Array	Array of configuration items of the DCS instance. For details, see **Table 6-7**.
config_status	String	DCS instance status that is being modified or has been modified. Options: • **UPDATING** • **FAILURE** • **SUCCESS**
config_time	String	Time at which the DCS instance is operated on. For example, 2017-03-31**T**12:24:46.297**Z**.

Table 6-7 redis_config parameter description

Parameter	Type	Description
description	String	Configuration item description.
param_id	Integer	Configuration parameter ID. For the possible values, see the **Parameter ID** column in **Table 6-8**.
param_name	String	Configuration parameter name. For the possible values, see the **Parameter Name** column in **Table 6-8**.
param_value	String	Configuration parameter value.
default_value	String	Default value of the configuration parameter. For the possible values, see the **Default Value** column in **Table 6-8**.
value_type	String	Type of the configuration parameter value. For the possible values, see the **Value Type** column in **Table 6-8**.
value_range	String	Range of the configuration parameter value. For the possible values, see the **Value Range** column in **Table 6-8**.

Table 6-8 describes the configuration parameters of a DCS instance.

Table 6-8 Configuration parameters of a DCS instance

Parameter ID	Parameter Name	Type	Description	Value Range	Default Value
1	timeout	Interger	Connection between the client and server (DCS instance) will be closed if the client is idle for the timeout period (measured in seconds). A timeout period of 0 seconds indicates that the timeout function is disabled.	0 to 7200. Unit: second.	0
2	maxmemory-policy	Enum	How Redis will select what to remove when maxmemory is reached. For more information about this parameter, see **https://redis.io/topics/lru-cache**.	volatile-lru allkeys-lru volatile-random allkeys-random volatile-ttl noeviction	noeviction
3	hash-max-ziplist-entries	Interger	When the number of entries in hashes is less than the value of this parameter, hashes are encoded using ziplist to save memory.	1–10,000	512
4	hash-max-ziplist-value	Interger	When the biggest entry in hashes does not exceed the length threshold indicated by this parameter, hashes are encoded using ziplist to save memory.	1–10,000	64
5	list-max-ziplist-entries	Interger	When the number of entries in lists is less than the value of this parameter, lists are encoded using ziplist to save memory.	1–10,000	512

Parameter ID	Parameter Name	Type	Description	Value Range	Default Value
6	list-max-ziplist-value	Interger	When the biggest entry in lists does not exceed the length threshold indicated by this parameter, lists are encoded using ziplist to save memory.	1–10,000	64
7	set-max-intset-entries	Interger	When a set is composed entirely of strings and the number of integers does not exceed the length threshold indicated by this parameter, the set is encoded using intset to save memory.	1–10,000	512
8	zset-max-ziplist-entries	Interger	When the number of entries in sorted sets is less than the value of this parameter, sorted sets are encoded using a memory efficient data structure.	1–10,000	128
9	zset-max-ziplist-value	Interger	When the biggest entry in sorted sets does not exceed the length threshold indicated by this parameter, sorted sets are encoded using ziplist to save memory.	1–10,000	64

Parameter ID	Parameter Name	Type	Description	Value Range	Default Value
10	latency-monitor-threshold	Interger	Threshold time in latency monitoring. If this parameter is set to **0**, latency monitoring is disabled. If this parameter is set to a value greater than 0, all events blocking the server for a time greater than the configured value will be logged. By running the LATENCY command, you can perform operations related to latency monitoring, such as obtaining statistical data, and configuring and enabling latency monitoring. For more information about the latency-monitor-threshold, visit **https://redis.io/topics/latency-monitor**.	0 to 86400000 Unit: ms	0

Parameter ID	Parameter Name	Type	Description	Value Range	Default Value
12	reserved-memory	Interger	Reserved memory, which is the number of megabytes reserved for the backend to perform internal processing such as persistence and master/standby replication. This parameter is available only for master/standby instances. The size of the reserved memory can be adjusted, but must be in the value range described in the next column. For more information about maximum available memory of each instance type, see *Distributed Cache Service User Guide*.	0% to 50% of maximum memory space initially available to the instance and below the current free memory space. Unit: MB.	0

Parameter ID	Parameter Name	Type	Description	Value Range	Default Value
13	notify-keyspace-events	String	Keyspace event notification. If this parameter is configured, the Redis Sub/Pub feature will allow clients to receive an event when a Redis data set is modified.	If the parameter value is a string of multiple characters, keyspace event notification is enabled and each character identifies a class of keyspace events for which Redis will send notifications. K: Keyspace events, published with the __keyspace@__ prefix E: Keyevent events, published with the __keyevent@__ prefix g: Generic commands (non-type specific) such as DEL, EXPIRE, and RENAME $: String commands l: List commands s: Set commands h: Hash commands z: Sorted set commands	Ex

Parameter ID	Parameter Name	Type	Description	Value Range	Default Value
				x: Expired events (events generated every time a key expires) e: Evicted events (events generated when a key is evicted for maxmemory) For more information, see the following note.	

NOTE

More about the **notify-keyspace-events** parameter:

- Allowed characters are K, E, KE, A, g, l, s, h, z, x, e, and $. The parameter value must contain either **K** or **E**.
- **A** is an alias for **g$lshzxe** and cannot be used together with any of the characters in g $lshzxe.
- For example, the value **Kl** means that Redis will notify Pub/Sub clients about keyspace events and list commands. The value **AKE** means Redis will notify Pub/Sub clients about all events.

Example response


```
{
   "status": "RUNNING",
   "instance_id": "c08fdc6e-5c25-4185-ab57-c0a5529b727f",
   "redis_config": [
      {
         "description": "How Redis will select what to remove when maxmemory is reached, You can select among five behaviors: volatile-lru : remove the key with an expire set using an LRU algorithm allkeys-lru : remove any key according to the LRU algorithm volatile-random: remove a random key with an expire set allkeys-random: remove a random key, any key volatile-ttl : remove the key with the nearest expire time (minor TTL) noeviction : don't expire at all, just return an error on write operations",
         "param_id": 2,
         "param_name": "maxmemory-policy",
         "param_value": "noeviction",
         "default_value": "noeviction",
         "value_type": "Enum",
         "value_range": "volatile-lru,allkeys-lru,volatile-random,allkeys-random,volatile-ttl,noeviction"
      },
      {
         "description": "Hashes are encoded using a memory efficient data structure when they have a small number of entries",
         "param_id": 3,
         "param_name": "hash-max-ziplist-entries",
         "param_value": "512",
         "default_value": "512",
```

```
            "value_type": "Interger",
            "value_range": "1-10000"
        },
        {
            "description": "Hashes are encoded using a memory efficient data structure when the biggest entry
does not exceed a given threshold",
            "param_id": 4,
            "param_name": "hash-max-ziplist-value",
            "param_value": "64",
            "default_value": "64",
            "value_type": "Interger",
            "value_range": "1-10000"
        },
        {
            "description": "Lists are encoded using a memory efficient data structure when they have a small
number of entries",
            "param_id": 5,
            "param_name": "list-max-ziplist-entries",
            "param_value": "512",
            "default_value": "512",
            "value_type": "Interger",
            "value_range": "1-10000"
        },
        {
            "description": "Lists are encoded using a memory efficient data structure when the biggest entry
does not exceed a given threshold",
            "param_id": 6,
            "param_name": "list-max-ziplist-value",
            "param_value": "64",
            "default_value": "64",
            "value_type": "Interger",
            "value_range": "1-10000"
        },
        {
            "description": "When a set is composed of just strings that happen to be integers in radix 10 in the
range of 64 bit signed integers.",
            "param_id": 7,
            "param_name": "set-max-intset-entries",
            "param_value": "512",
            "default_value": "512",
            "value_type": "Interger",
            "value_range": "1-10000"
        },
        {
            "description": "Sorted sets are encoded using a memory efficient data structure when they have a
small number of entries",
            "param_id": 8,
            "param_name": "zset-max-ziplist-entries",
            "param_value": "128",
            "default_value": "128",
            "value_type": "Interger",
            "value_range": "1-10000"
        },
        {
            "description": "Sorted sets are encoded using a memory efficient data structure when the biggest
entry does not exceed a given threshold",
            "param_id": 9,
            "param_name": "zset-max-ziplist-value",
            "param_value": "64",
            "default_value": "64",
            "value_type": "Interger",
            "value_range": "1-10000"
        },
        {
            "description": "Close the connection after a client is idle for N seconds (0 to disable)",
            "param_id": 1,
            "param_name": "timeout",
            "param_value": "0",
            "default_value": "0",
```

```
            "value_type": "Interger",
            "value_range": "0-7200"
        },
        {
            "description": "Only events that run in more time than the configured latency-monitor-threshold will be logged as latency spikes. If latency-monitor-threshold is set to 0, latency monitoring is disabled. If latency-monitor-threshold is set to a value greater than 0, all events blocking the server for a time equal to or greater than the configured latency-monitor-threshold will be logged.",
            "param_id": 10,
            "param_name": "latency-monitor-threshold",
            "param_value": "0",
            "default_value": "0",
            "value_type": "Interger",
            "value_range": "0-86400000"
        },
        {
            "description": "The total memory, in bytes, reserved for non-data usage.",
            "param_id": 12,
            "param_name": "reserved-memory",
            "param_value": "0",
            "default_value": "0",
            "value_type": "Interger",
            "value_range": "0-6553"
        },
        {
            "description": "Redis can notify Pub or Sub clients about events happening in the key space",
            "param_id": 13,
            "param_name": "notify-keyspace-events",
            "param_value": null,
            "default_value": null,
            "value_type": "regular",
            "value_range": "([KE]+([A]|[g$lshzxe]+)){0,11}"
        }
    ],
    "config_status": "SUCCESS",
    "config_time": ""
}
```


Status Code

Table 6-9 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 6-9 Status code

Status Code	Description
200	Instance configurations queried successfully.

7 Backup and Restoration APIs

7.1 Backing Up a DCS Instance

Function

This API is used to back up a specified DCS instance.

NOTE

Only master/standby and cluster DCS instances can be backed up and restored, while single-node instances cannot.

URI

POST /v1.0/{project_id}/instances/{instance_id}/backups

Table 7-1 describes the parameters.

Table 7-1 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID.
instance_id	String	Yes	DCS instance ID.

Request

Request parameters

Table 7-2 describes the request parameters.

Table 7-2 Parameter description

Parameter	Type	Mandatory	Description
remark	String	No	Description of DCS instance backup.

Example request

```
POST https://{dcs_endpoint}/v1.0/{project_id}/instances/{instance_id}/backups
```

```
{
   "remark": "Backup instances"
}
```

Response

Response parameters

Table 7-3 describes the response parameter.

Table 7-3 Parameter description

Parameter	Type	Description
backup_id	String	ID of the backup record

Example response

```
{
   "backup_id": "548ceeff-2cbb-47ab-9a1c-7b085a8c08d7"
}
```

Status Code

Table 7-4 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 7-4 Status code

Status Code	Description
200	Specified DCS instance backed up successfully.

7.2 Restoring a DCS Instance

Function

This API is used to restore a specified DCS instance.

NOTE

Only master/standby and cluster DCS instances can be backed up and restored, while single-node instances cannot.

URI

POST /v1.0/{project_id}/instances/{instance_id}/restores

Table 7-5 describes the parameters.

Table 7-5 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID.
instance_id	String	Yes	DCS instance ID.

Request

Request parameters

Table 7-6 describes the request parameters.

Table 7-6 Parameter description

Parameter	Type	Mandatory	Description
remark	String	No	Description of DCS instance restoration
backup_id	String	Yes	ID of the backup record

Example request

```
POST https://{dcs_endpoint}/v1.0/{project_id}/instances/{instance_id}/restores
```

```
{
   "remark":"restore instance",
   "backup_id":"8ba256cb-e5ac-44f6-a3da-c03d8f0e5029"
}
```

Response

Response parameters

Table 7-7 describes the response parameter.

Table 7-7 Parameter description

Parameter	Type	Description
restore_id	String	ID of the restoration record

Example response

```
{
    "restore_id": "a6155972-800c-4170-a479-3231e907d2f6"
}
```

Status Code

Table 7-8 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 7-8 Status code

Status Code	Description
200	DCS instance restored successfully.

7.3 Querying DCS Instance Backup Records

Function

This API is used to query the backup records of a specified DCS instance.

URI

GET /v1.0/{project_id}/instances/{instance_id}/backups?start={start}&limit={limit}&beginTime={beginTime}&endTime={endTime}

Table 7-9 describes the parameters.

Table 7-9 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID.
instance_id	String	Yes	DCS instance ID.
start	Integer	No	Start sequence number of the backup record that is to be queried. By default, this parameter is set to **1**.

Parameter	Type	Mandatory	Description
limit	Integer	No	Number of backup records displayed on each page. The minimum value of this parameter is **1**. If this parameter is not set, 10 backup records are displayed on each page by default.
beginTime	String	No	Start time of the period to be queried. Format: yyyyMMddHHmmss, for example, 20170718235959.
endTime	String	No	End time of the period to be queried. Format: yyyyMMddHHmmss, for example, 20170718235959.

Request

Request parameters

None.

Example request

```
GET https://{dcs_endpoint}/v1.0/{project_id}/instances/{instance_id}/backups?start={start}&limit={limit}&beginTime={beginTime}&endTime={endTime}
```

Response

Response parameters

Table 7-10 describes the response parameters.

Table 7-10 Parameter description

Parameter	Type	Description
backup_record_response	Array	Array of the backup records. For details about backup_record_response, see Table 7-11.
total_num	Integer	Number of obtained backup records.

Table 7-11 backup_record_response parameter description

Parameter	Type	Description
status	String	Backup status. Options: • **waiting**: DCS instance restoration is waiting to begin. • **backuping**: DCS instance backup is in progress. • **succeed**: DCS instance backup succeeded. • **failed**: DCS instance backup failed. • **expired**: The backup file expires. • **deleted**: The backup file has been deleted manually.
remark	String	Description of DCS instance backup
period	String	Time segment in which DCS instance backup was performed
progress	String	Backup progress
size	Long	Size of the backup file. Unit: byte.
instance_id	String	DCS instance ID
backup_id	String	ID of the backup record
created_at	String	Time at which the backup task is created
updated_at	String	Time at which DCS instance backup is completed
execution_at	String	Time at which the backup starts.
backup_type	String	Backup type. Options: • **manual**: manual backup • **auto**: automatic backup
backup_name	String	Name of the backup record
error_code	String	Error code returned if DCS instance backup fails. For details about error codes, see **Table 7-12**.
is_support_restore	String	An indicator of whether restoration is supported. Options: **TRUE** or **FALSE**.

Table 7-12 Error codes returned in case of a backup or restoration failure

Error Code	Description
dcs.08.0001	Failed to start the backup and restore tool.
dcs.08.0002	Operation timed out.

Error Code	Description
dcs.08.0003	Failed to delete bucket.
dcs.08.0004	Failed to obtain AK/SK.
dcs.08.0005	Failed to create bucket.
dcs.08.0006	Failed to obtain backup file size.
dcs.08.0007	Data synchronization failed during instance restoration.
dcs.08.0008	Automatic backup of the instance cannot start because the instance is running other jobs.

Example response

```
{
   "backup_record_response": [
      {
         "status": "succeed",
         "remark": "001",
         "period": null,
         "progress": "100.00",
         "size": 880232,
         "instance_id": "5560df16-cebf-4473-95c4-d1b573c16e79",
         "backup_id": "4631832a-14c6-45b0-a0b3-3abd8f591ad1",
         "created_at": "2019-05-10T08:31:16.166Z",
         "updated_at": "2019-05-10T08:32:30.546Z",
         "execution_at": "2019-05-10T08:31:21.461Z",
         "backup_type": "manual",
         "backup_name": "backup_20190510163116",
         "error_code": null,
         "is_support_restore": "TRUE"
      }
   ],
   "total_num": 1
}
```

Status Code

Table 7-13 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 7-13 Status code

Status Code	Description
200	DCS instance backup records queried successfully.

7.4 Querying DCS Instance Restoration Records

Function

This API is used to query the restoration records of a specified DCS instance.

URI

GET /v1.0/{project_id}/instances/{instance_id}/restores?start={start}&limit={limit}&beginTime={beginTime}&endTime={endTime}

Table 7-14 describes the parameters.

Table 7-14 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID.
instance_id	String	Yes	DCS instance ID.
start	Integer	No	Start sequence number of the restoration record to be queried. By default, this parameter is set to **1**.
limit	Integer	No	Number of restoration records displayed on each page. The minimum value of this parameter is **1**. If this parameter is not specified, 10 restoration records are displayed on each page by default.
beginTime	String	No	Start time of the period to be queried. Format: yyyyMMddHHmmss, for example, 20170718235959.
endTime	String	No	End time of the period to be queried. Format: yyyyMMddHHmmss, for example, 20170718235959.

Request

Request parameters

None.

Example request

```
GET https://{dcs_endpoint}/v1.0/{project_id}/instances/{instance_id}/restores?start={start}&limit={limit}&beginTime={beginTime}&endTime={endTime}
```

Response

Response parameters

Table 7-15 describes the response parameters.

Table 7-15 Parameter description

Parameter	Type	Description
restore_record_response	Array	Array of the restoration records.
total_num	Integer	Number of obtained backup records.

Table 7-16 restore_record_response parameter description

Parameter	Type	Description
status	String	Restoration status • **waiting**: DCS instance restoration is waiting to begin. • **restoring**: DCS instance restoration is in progress. • **succeed**: DCS instance restoration succeeded. • **failed**: DCS instance restoration failed.
progress	String	Restoration progress
restore_id	String	ID of the restoration record
backup_id	String	ID of the backup record
restore_remark	String	Description of DCS instance restoration
backup_remark	String	Description of DCS instance backup
created_at	String	Time at which the restoration task is created
updated_at	String	Time at which DCS instance restoration completed
restore_name	String	Name of the restoration record
backup_name	String	Name of the backup record
error_code	String	Error code returned if DCS instance restoration fails. For details about error codes, see Table 7-12.

Example response

```
{
   "restore_record_response": [
      {
         "status": "succeed",
         "progress": "100.00",
         "restore_id": "a6155972-800c-4170-a479-3231e907d2f6",
         "backup_id": "f4823e9e-fe9b-4ffd-be79-4e5d6de272bb",
         "restore_remark": "doctest",
         "backup_remark": null,
         "created_at": "2017-07-18T21:41:20.721Z",
         "updated_at": "2017-07-18T21:41:35.182Z",
         "restore_name": "restore_20170718214120",
         "backup_name": "backup_20170718000002",
         "error_code": null
      }
   ],
   "total_num": 1
}
```

Status Code

Table 7-17 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 7-17 Status code

Status Code	Description
200	DCS instance restoration record queried successfully.

7.5 Deleting Backup Files

Function

This API is used to delete the files backed up by a DCS instance.

URI

DELETE /v1.0/{project_id}/instances/{instance_id}/backups/{backup_id}

Table 7-18 describes the parameters.

Table 7-18 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID
instance_id	String	Yes	DCS instance ID
backup_id	String	Yes	ID of the backup record

Example

```
DELETE https://{dcs_endpoint}/v1.0/885cacf2d49d4bb6931ae668e9c07553/instances/e016385d-b9fa-4bf0-9f38-9379f4a5293f/backups/75509c85-50a6-4525-ad56-a1bb62e84570
```

Request

Request parameters

None.

Example request

None.

Response

Response parameters

Table 7-19 describes the response parameters.

Table 7-19 Parameter description

Parameter	Type	Description
message	String	Result of deleting the backup file

Example response

```
{
    "message": ""
}
```

Status Code

Table 7-20 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 7-20 Status code

Status Code	Description
200	Backup file deleted successfully.

8 Other APIs

8.1 Querying Service Specifications

Function

This API is used to query the product ID (parameter **product_id**) which indicates the specifications of the DCS service you created.

URI

GET /v1.0/products

Request

Request parameters

None

Example request

None

Response

Response parameters

Table 8-1 describes the response parameters.

Table 8-1 Parameter description

Parameter	Type	Description
products	Array	List of specifications of the DCS service to which you can subscribe.

Table 8-2 products parameter description

Parameter	Type	Description
product_id	String	Product ID used to differentiate DCS specifications.
spec_code	String	DCS instance specification code. • **dcs.single_node** • **dcs.master_standby** • **dcs.cluster**
cache_mode	String	DCS instance type. Options: • **single**: single-node • **ha**: master/standby • **cluster**: Redis Cluster • **proxy**: Proxy Cluster
product_type	String	Edition of DCS for Redis.
cpu_type	String	CPU architecture.
storage_type	String	Storage type.
details	Array	Details of the specifications. **Table 8-3** describes the parameters in this array.
engine	String	Cache engine.
engine_versions	String	Cache engine version.
spec_details	String	DCS specifications. The value subjects to the returned specifications.
spec_details2	String	Detailed DCS specifications, including the maximum number of connections and maximum memory size.
charging_type	String	Billing mode. Value: **Hourly**.
price	doubule	Price of the DCS service to which you can subscribe. (This parameter has been abandoned.)
currency	String	Currency.
prod_type	String	Product type. Options: **instance** and **obs_space**.
cloud_service_type_code	String	Cloud service type code.
cloud_resource_type_code	String	Cloud resource type code.

Parameter	Type	Description
flavors	Array	AZs with available resources. **Table 8-4** describes the parameters in this array.

Table 8-3 details parameter description

Parameter	Type	Description
capacity	String	Specification (total memory) of the DCS instance.
max_bandwidth	String	Maximum bandwidth supported by the specification.
max_clients	String	Maximum number of clients supported by the specification, which is usually equal to the maximum number of connections.
max_connections	String	Maximum number of connections supported by the specification.
max_in_bandwidth	String	Maximum inbound bandwidth supported by the specification, which is usually equal to the maximum bandwidth.
max_memory	String	Maximum available memory.
tenant_ip_count	String	Number of tenant IP addresses corresponding to the specifications.
sharding_num	String	Number of shards supported by the specifications.
proxy_num	String	Number of proxies supported by Proxy Cluster instances of the specified specifications. If the instance is not a Proxy Cluster instance, the value of this parameter is **0**.
db_number	String	Number of DBs of the specifications.

Table 8-4 flavors parameter description

Parameter	Type	Description
capacity	String	Specification (total memory) of the DCS instance.
unit	String	Memory unit.
available_zones	Array	AZ ID.

Example response


```
{
   "products": [
     {
         "details": {
            "capacity": 64,
            "max_memory": 64,
            "max_connections": 20000,
            "max_clients": 80000,
            "max_bandwidth": 2000,
            "max_in_bandwidth": 600,
            "proc_num": 8
         },
         "engine": "redis",
         "price": 0.04,
         "currency": "1",
         "flavors": [
            {
               "capacity": "64",
               "unit": "GB",
               "available_zones": [
                  "ae04cf9d61544df3806a3feeb401b204",
                  "882f6e449e3245dbb8c1c0fafa494c89"
               ]
            },
            {
               "capacity": "128",
               "unit": "GB",
               "available_zones": [
                  "ae04cf9d61544df3806a3feeb401b204",
                  "882f6e449e3245dbb8c1c0fafa494c89"
               ]
            },
            {
               "capacity": "256",
               "unit": "GB",
               "available_zones": [
                  "ae04cf9d61544df3806a3feeb401b204",
                  "882f6e449e3245dbb8c1c0fafa494c89"
               ]
            }
         ],
         "product_id": "00301-30112-0--0",
         "spec_code": "dcs.cluster",
         "cache_mode": "cluster",
         "product_type": "generic",
         "cpu_type": "x86_64",
         "storage_type": "DRAM",
         "engine_versions": "3.0",
         "spec_details": "[{\"mem\":\"64,128,256\"}]",
         "spec_details2": "[{\"capacity\": 64,\"max_memory\": 64,\"max_connections\": 20000,\"max_clients\":
80000,\"max_bandwidth\": 2000,\"max_in_bandwidth\": 600,\"proc_num\":8},{\"capacity\":
128,\"max_memory\": 128,\"max_connections\": 20000,\"max_clients\":160000,\"max_bandwidth\":
2000,\"max_in_bandwidth\": 600,\"proc_num\":16},{\"capacity\": 256,\"max_memory\":
256,\"max_connections\": 20000,\"max_clients\":160000,\"max_bandwidth\": 2000,\"max_in_bandwidth\":
600,\"proc_num\":32},{\"capacity\": 512,\"max_memory\": 512,\"max_connections\": 20000,\"max_clients\":
160000,\"max_bandwidth\": 2000,\"max_in_bandwidth\": 600,\"proc_num\":64},{\"capacity\":
1024,\"max_memory\": 1024,\"max_connections\": 20000,\"max_clients\":160000,\"max_bandwidth\":
2000,\"max_in_bandwidth\": 600,\"proc_num\":128}]",
         "charging_type": "Hourly",
         "prod_type": "instance",
         "cloud_service_type_code": "XXXX",
         "cloud_resource_type_code": "XXXX"
      },
}
```

Status Code

Table 8-5 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 8-5 Status code

Status Code	Description
200	Service specifications queried successfully.

8.2 Querying the Quota of a Tenant

Function

This API is used to query the default instance quota and total memory quota of a tenant and the maximum and minimum quotas a tenant can apply for. Different tenants have different quotas in different regions.

URI

GET /v1.0/{project_id}/quota

Table 8-6 describes the parameter.

Table 8-6 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID

Request

Request parameters

None

Example request

None

Response

Response parameters

Table 8-7 describes the response parameters.

Table 8-7 Parameter description

Parameter	Type	Mandatory	Description
quotas	JSON	Yes	Quota information. For details, see **Table 8-8**.

Table 8-8 quotas parameter description

Parameter	Type	Mandatory	Description
resources	Array	Yes	List of quotas. For details, see **Table 8-9**.
resource_user	JSON	Yes	Information about a resource tenant For details, see **Table 8-10**.

Table 8-9 resources parameter description

Parameter	Type	Description
quota	Integer	Maximum number of instances that can be created and maximum allowed total memory.
used	Integer	Number of created instances and used memory.
type	String	Values: • **instances**: indicates the instance quota. • **ram**: indicates the memory quota.
unit	String	Resource unit. • When **type** is set to **instance**, no value is returned. • When **type** is set to **ram**, **GB** is returned.
max	Integer	• Indicates the maximum limit of instance quota when **type** is set to **instance**. • Indicates the maximum limit of memory quota when **type** is set to **ram**.

Parameter	Type	Description
min	Integer	• Indicates the minimum limit of instance quota when **type** is set to **instance**. • Indicates the minimum limit of memory quota when **type** is set to **ram**.

Table 8-10 resource_user parameter description

Parameter	Type	Description
tenant_id	String	Resource tenant ID
tenant_name	Integer	Resource tenant name

Example response

```
{
   "quotas": {
      "resources": [
         {
            "quota": 10,
            "used": 3,
            "type": "instance",
            "min": 1,
            "max": 10,
            "unit": null
         },
         {
            "quota": 800,
            "used": 22,
            "type": "ram",
            "min": 1,
            "max": 800,
            "unit": "GB"
         }
      ],
      "resource_user": {
         "tenant_id": "836152f9838a44089f40f3cf6fd432bf",
         "tenant_name": "op_svc_dcs_003"
      }
   }
}
```

Status Code

Table 8-11 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 8-11 Status code

Status Code	Description
200	Tenant quota queried successfully.

8.3 Querying Maintenance Time Window

Function

The API is used to query the start time and end time of the maintenance time window.

URI

GET /v1.0/instances/maintain-windows

Request

Request parameters

None

Example request

None

Response

Response parameters

Table 8-12 describes the response parameters.

Table 8-12 Parameter description

Parameter	Type	Description
maintain_windows	Array	List of supported maintenance time windows.

Table 8-13 maintain_windows parameter description

Parameter	Type	Description
seq	Integer	Sequence number of the maintenance time window.

Parameter	Type	Description
begin	String	Start time of the maintenance time window.
end	String	End time of the maintenance time window.
default	Boolean	An indicator of whether the maintenance time window is set to the default time segment.

Example response

```
{
   "maintain_windows": [
      {
         "seq": 1,
         "begin": "22",
         "end": "02",
         "default": false
      },
      {
         "seq": 2,
         "begin": "02",
         "end": "06",
         "default": true
      },
      {
         "seq": 3,
         "begin": "06",
         "end": "10",
         "default": false
      },
      {
         "seq": 4,
         "begin": "10",
         "end": "14",
         "default": false
      },
      {
         "seq": 5,
         "begin": "14",
         "end": "18",
         "default": false
      },
      {
         "seq": 6,
         "begin": "18",
         "end": "22",
         "default": false
      }
   ]
}
```

Status Code

Table 8-14 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 8-14 Status code

Status Code	Description
200	Successfully queried the maintenance time window.

8.4 Querying AZ Information

Function

This API is used to query the ID of the AZ where a DCS instance resides.

URI

GET /v1.0/availableZones

Request

Request parameters

None

Example request

None

Response

Response parameters

Table 8-15 describes the response parameters.

Table 8-15 Parameter description

Parameter	Type	Description
regionId	String	Region ID.
available_zones	Array	Array of AZs. For details, see Table 8-16.

Table 8-16 Parameter description of the available_zones array

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

Parameter	Type	Description
port	String	Port number of the AZ.
resource_availability	String	An indicator of whether there are available resources in the AZ. • **true**: There are available resources in the AZ. • **false**: All resources have been used up in the AZ.

Example response

```
{
   "regionId": "XXXXXX",
   "available_zones": [
      {
         "id": "f84448fd537f46078dd8bd776747f573",
         "code": "XXXXXX",
         "name": "XXXXXX",
         "port": "8003",
         "resource_availability": "true"
      },
      {
         "id": "12c47a78666b4e438cd0c692b9860387",
         "code": "XXXXXX",
         "name": "XXXXXX",
         "port": "8002",
         "resource_availability": "true"
      },
      {
         "id": "0725858e0d26434f9aa3dc5fc40d5697",
         "code": "XXXXXX",
         "name": "XXXXXX",
         "port": "8009",
         "resource_availability": "true"
      }
   ]
}
```

Status Code

Table 8-17 describes the status code of successful operations. For details about other status codes, see Table 9-1.

Table 8-17 Status code

Status Code	Description
200	AZ information queried successfully.

9 Appendix

9.1 Status Codes

Table 9-1 describes status codes.

Table 9-1 Status codes

Status Code	Name	Description
100	Continue	The server has received the initial part of the request and the client should continue to send the remaining part.
101	Switching Protocols	The requester has asked the server to switch protocols and the server has agreed to do so. The target protocol must be more advanced than the source protocol. For example, the current HTTP protocol is switched to a later version of HTTP.
200	OK	The server successfully processed the request.
201	Created	The request has been fulfilled, resulting in the creation of a new resource.
202	Accepted	The request has been accepted for processing, but the processing has not been completed.
203	Non-Authoritative Information	The request has been fulfilled.
204	NoContent	The server has successfully processed the request, but is not returning any content. The status code is returned in response to an HTTP OPTIONS request.

Status Code	Name	Description
205	Reset Content	The server has successfully processed the request, but is not returning any content. Unlike a 204 response, this response requires that the requester reset the content.
206	Partial Content	The server has successfully processed a part of the GET request.
300	Multiple Choices	There are multiple options for the requested resource. For example, this code could be used to present a list of resource characteristics and addresses from which the client such as a browser may choose.
301	Moved Permanently	This and all future requests should be permanently directed to the given URI indicated in this response.
302	Found	The requested resource was temporarily moved.
303	See Other	The response to the request can be found under another URI using a GET or POST method.
304	Not Modified	The requested resource has not been modified. In such case, there is no need to retransmit the resource since the client still has a previously-downloaded copy.
305	Use Proxy	The requested resource is available only through a proxy.
306	Unused	This HTTP status code is no longer used.
400	BadRequest	The request is invalid. The client should modify the request instead of re-initiating it.
401	Unauthorized	The authentication information provided by the client is incorrect or invalid.
402	Payment Required	Reserved for future use.
403	Forbidden	The server has received the request and understood it, but the server is refusing to respond to it. The client should modify the request instead of re-initiating it.

Status Code	Name	Description
404	NotFound	The requested resource could not be found. The client should modify the request instead of re-initiating it.
405	MethodNotAllowed	A request method is not supported for the requested resource. The client should modify the request instead of re-initiating it.
406	Not Acceptable	The server could not fulfill the request according to the content characteristics of the request.
407	Proxy Authentication Required	This code is similar to 401, but indicates that the client must first authenticate itself with the proxy.
408	Request Time-out	The server timed out waiting for the request. The client may re-initiate the request without modifications at any later time.
409	Conflict	The request could not be processed due to a conflict in the request, such as an edit conflict between multiple simultaneous updates or the resource that the client attempts to create already exits.
410	Gone	The requested resource has been deleted permanently and will not be available again.
411	Length Required	The server refused to process the request because the request does not specify the length of its content.
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 the server is willing or 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 does not support the media type in the request.

Status Code	Name	Description
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 was well-formed but was unable to be followed due to semantic errors.
429	TooManyRequests	The client has sent more requests than its rate limit is allowed within a given amount of time, or the server has received more requests than it is able to process within a given amount of time. In this case, it is advisable for the client to re-initiate requests after the time specified in the Retry-After header of the response expires.
500	InternalServerError	The server is able to receive the request but it could not understand the request.
501	Not Implemented	The server does not support the requested function.
502	Bad Gateway	The server was acting as a gateway or proxy and received an invalid request from a remote server.
503	ServiceUnavailable	The requested service is invalid. It is advisable for the client to modify the request instead of re-initiating the request.
504	ServerTimeout	The server could not return a timely response. 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.

9.2 Error Codes

Status Code	Error Code	Error Message	Description	Solution
400	111400002	Invalid project ID format.	Invalid project ID format.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
400	111400004	Empty request body.	Empty request body.	Check whether the request parameters are valid.
400	111400005	The message body contains invalid characters or is not in JSON format.	The message body contains invalid characters or is not in JSON format.	Check whether the request parameters are valid.
400	111400007	The selected cache engine type is not supported.	The selected cache engine type is not supported.	Check whether the request parameters are valid.
400	111400008	The selected cache engine version is not supported.	The selected cache engine version is not supported.	Check whether the request parameters are valid.
400	111400009	Invalid product ID in the request.	Invalid product ID in the request.	Check whether the request parameters are valid.
400	111400010	Invalid DCS instance name. The name must be 4 to 64 characters in length. Only letters (case-insensitive), digits, underscores (_) ,and hyphens (-) are allowed.	Invalid DCS instance name. The name must be 4 to 64 characters long. Only letters, digits, underscores (_), and hyphens (-) are allowed.	Check whether the request parameters are valid.
400	111400011	DCS instance description cannot exceed 1024 characters.	DCS instance description cannot exceed 1024 characters.	Check whether the request parameters are valid.
400	111400012	Invalid capacity parameter in the request.	Invalid capacity parameter in the request.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
400	111400013	Invalid vpc_id in the request.	Invalid **vpc_id** in the request.	Check whether the request parameters are valid.
400	111400014	Invalid security_group_id in the request.	Invalid **security_group_id** in the request.	Check whether the request parameters are valid.
400	111400016	Invalid subnet_id in the request.	Invalid **subnet_id** in the request.	Check whether the request parameters are valid.
400	111400017	This DCS instance job task is still running.	A background task associated with this instance is running.	Try again later.
400	111400018	This subnet must exist in the VPC.	This subnet must exist in the VPC.	Check whether the request parameters are valid.
400	111400019	The password does not meet complexity requirements.	The password does not meet complexity requirements.	Check whether the request parameters are valid.
400	111400020	DHCP must be enabled for this subnet.	DHCP must be enabled for this subnet.	Check whether DHCP has been enabled.
400	111400021	The isAutoRenew parameter in the request must be either 0 or 1.	Invalid **isAutoRenew** in the request. It must be either **0** or **1**.	Check whether the request parameters are valid.
400	111400022	Engine does not match the product id.	The cache engine does not match the product ID.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
400	111400026	This operation is not allowed when the DCS instance is in the current state.	This operation is not allowed when the DCS instance is in the current state.	Try again later or contact technical support.
400	111400027	This operation is not supported on this node.	The current node does not support this operation.	Try again later or contact technical support.
400	111400035	DCS instance quota of the tenant is insufficient.	DCS instance quota of the tenant is insufficient.	Contact technical support.
400	111400036	Memory quota of the tenant is insufficient.	Memory quota of the tenant is insufficient.	Contact technical support.
400	111400037	The instanceParams parameter in the request contains invalid characters or is not in JSON format.	The **instanceParams** parameter in the request contains invalid characters or is not in JSON format.	Check whether the request parameters are valid.
400	111400038	The periodNum parameter in the request must be an integer.	The **periodNum** parameter in the request must be an integer.	Check whether the request parameters are valid.
400	111400039	The quota limit has been reached.	The quota limit has been reached.	Check whether the request parameters are valid.
400	111400042	This AZ does not exist.	This AZ does not exist.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
400	111400045	This DCS instance is already unfrozen.	The instance is not frozen and cannot be unfrozen.	Check whether the request parameters are valid.
400	111400046	This security group does not exist.	This security group does not exist.	Check whether the request parameters are valid.
400	111400047	The periodType parameter in the request must be either 2 or 3.	The **periodType** parameter in the request must be either **2** or **3**.	Check whether the request parameters are valid.
400	111400048	The security group must have both outbound and inbound rules with protocols set to ANY.	The security group must have both outbound and inbound rules with protocols set to **ANY**.	Check whether the request parameters are valid.
400	111400053	the upgrade instance version equals to current version.	The **targetVersion** parameter in the request cannot be the same as the source version.	Check whether the request parameters are valid.
400	111400054	the selected available zone quota not enough.	The DCS resources in the selected AZ have been sold out.	Select another AZ or contact technical support.
400	111400060	This DCS instance name already exists.	This instance name already exists.	Check whether the request parameters are valid.
400	111400061	Invalid instance ID format.	Invalid instance ID format.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
400	111400062	Invalid {0} parameter in the request.	Invalid parameter **{0}** in the request.	Check whether the request parameters are valid.
400	111400063	Invalid {0} parameter in the request.	Invalid parameter **{0}** in the request.	Check whether the request parameters are valid.
400	111400064	The action parameter in the request must be start, stop, or restart.	The **action** parameter in the request must be **start**, **stop**, or **restart**.	Check whether the request parameters are valid.
400	111400065	The instances parameter in the request cannot be a null value or left unspecified.	The **instances** parameter in the request cannot be a null value or left unspecified.	Check whether the request parameters are valid.
400	111400066	Invalid value of the configure parameter {0}.	Invalid configuration parameter **{0}**.	Check whether the request parameters are valid.
400	111400067	The available_zones parameter in the request must an array that contains only one AZ ID.	The **available_zones** parameter in the request must be an array that contains only one AZ ID.	Check whether the request parameters are valid.
400	111400068	This VPC does not exist.	This VPC does not exist.	Check whether the request parameters are valid.
400	111400070	Invalid task ID format.	Invalid task ID format.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
400	111400072	Invalid saveDays instance backup policy parameter in the request.	The value of the instance backup parameter **saveDays** in the request must be in the range from 1 to 7.	Check whether the request parameters are valid.
400	111400073	Invalid backupType instance backup policy parameter in the request.	The value of the instance backup parameter **backupType** in the request must be either **auto** or **manual**.	Check whether the request parameters are valid.
400	111400074	Invalid periodType instance backup policy parameter in the request.	The value of the instance backup parameter **periodType** in the request must be **weekly**.	Check whether the request parameters are valid.
400	111400075	Invalid backupAt instance backup policy parameter in the request.	The value of the instance backup parameter **backupAt** in the request cannot be null or undefined.	Check whether the request parameters are valid.
400	111400076	Invalid beginAt instance backup policy parameter in the request.	The value of the instance backup parameter **beginAt** in the request must be in the 00:00–00:00 format.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
400	111400080	Instance password verify failed.	Invalid password for accessing the selected DCS instance.	Check whether the request parameters are valid.
400	111400086	only master standby instance is support this action	This operation is allowed only for master/ standby DCS instances.	Operation not allowed.
400	111400087	the backup record status is err when restore this instance	The restore operation is allowed only when the backup task is in the **Succeeded** state.	Try again later or contact technical support.
400	111400094	the system is not support dcs job.	The system does not support the background task function.	Operation not allowed.
400	111400095	the system is not support backup and restore.	The system does not support the backup and restoration function.	Operation not allowed.
400	111400096	the instance is backuping.	Backing up the DCS instance... Please try again later.	Try again later.
400	111400097	the instance is restoring.	Restoring the DCS instance... Please try again later.	Try again later.

Status Code	Error Code	Error Message	Description	Solution
400	111400098	The value of the remark parameter must be 0 to 128 characters in length.	The value of the **remark** parameter cannot exceed 128 characters long.	Check whether the request parameters are valid.
400	111400099	DCS instances in the Creating, Starting, Stopping, or Restarting state cannot be deleted.	DCS instances in the **Creating**, **Restarting**, or **Deleting** state cannot be deleted.	Try again later.
400	111400100	The number of instance IDs in an instances array cannot exceed 50.	The number of instance IDs in an instances array cannot exceed 50.	Check whether the request parameters are valid.
400	111400102	The system is not support resize.	Scale-up is not supported.	Operation not allowed.
400	111400103	The system is not support resize.	The capacity to which the DCS instance is scaled up must be greater than the original capacity.	Check whether the request parameters are valid.
400	111400104	The DCS instance is recovering from an internal fault. Please try again later or contact customer service.	The DCS instance is recovering from an internal fault. Please try again later or contact the administrator.	Please try again later or contact the administrator.

Status Code	Error Code	Error Message	Description	Solution
400	111400105	The value of reserved-memory cannot be greater than the free memory size of this DCS instance.	The value of **reserved-memory** cannot be greater than the free memory size of this DCS instance.	Check whether the request parameters are valid.
400	111400106	The value of maintain time illegal.	Invalid maintenance time window.	Check whether the request parameters are valid.
400	111400108	The Instance exists for processing sacle up order. Please try again later.	Scaling up the DCS instance... Please try again later.	Try again later or contact technical support.
400	111400111	the instance is restarting.	Restarting the DCS instance... Please try again later.	Try again later or contact technical support.
400	111400113	the instance is extending.	Scaling up the DCS instance... Please try again later.	Try again later or contact technical support.
400	111400114	the instance is configuring.	Modifying instance configuration... Please try again later.	Try again later or contact technical support.
400	111400115	the instance is changing the password.	Changing instance password... Please try again later.	Try again later or contact technical support.
400	111400116	the instance is upgrading.	Upgrading the DCS instance... Please try again later.	Try again later or contact technical support.

Status Code	Error Code	Error Message	Description	Solution
400	111400117	the instance is rollbacking the version.	Rolling back the DCS instance... Please try again later.	Try again later or contact technical support.
400	111400118	the instance is creating.	Creating the DCS instance... Please try again later.	Try again later or contact technical support.
400	111400119	Query Bill Sample failed	This DCS instance does not exist.	Check whether the request parameters are valid.
400	111400120	the instance is Freezing.	Freezing the DCS instance... Please try again later.	Try again later or contact technical support.
400	111400800	Invalid {0} in the request.	Invalid parameter **{0}** in the request.	Check whether the request parameters are valid.
400	111400843	The no_password_access parameter is missing or its value is invalid.	Parameter **no_password_access** is missing or invalid.	Check whether the request parameters are valid.
400	111400844	The access_user parameter is missing or its value is invalid.	Parameter **access_user** is missing or invalid.	Check whether the request parameters are valid.
400	111400845	The password parameter is missing or its value is invalid.	Parameter **password** is missing or invalid.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
400	111400849	The request parameter new_password should not exist.	Request parameter **new_password** should not exist.	Check whether the request parameters are valid.
400	111400850	This operation is not supported when Password-Free Access is enabled for the instance.	This operation is not supported when password-free access is enabled for the instance.	Reset the instance password.
400	DCS. 4855	Master standby swap is not supported.	Master/ Standby switchover is not supported.	Operation not allowed.
400	DCS.1004	Project ID does not match the token.	Project ID does not match the token.	Check whether the request parameters are valid.
400	DCS.4002	Invalid project ID format.	Invalid project ID format.	Check whether the request parameters are valid.
400	DCS.4004	Empty request body.	Empty request body.	Check whether the request parameters are valid.
400	DCS.4005	The message body contains invalid characters or is not in JSON format.	The message body contains invalid characters or is not in JSON format.	Check whether the request parameters are valid.
400	DCS.4007	The selected cache engine type is not supported.	The selected cache engine edition is not supported.	Check whether the request parameters are valid.
400	DCS.4008	The selected cache engine version is not supported.	The selected cache engine version is not supported.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
400	DCS.4009	Invalid product ID in the request.	Invalid product ID in the request.	Check whether the request parameters are valid.
400	DCS.4010	Invalid DCS instance name. The name must be 4 to 64 characters in length. Only letters (case-insensitive), digits, underscores (_) ,and hyphens (-) are allowed.	Invalid DCS instance name. The name must be 4 to 64 characters long. Only letters, digits, underscores (_), and hyphens (-) are allowed.	Check whether the request parameters are valid.
400	DCS.4011	DCS instance description cannot exceed 1024 characters.	DCS instance description cannot exceed 1024 characters.	Check whether the request parameters are valid.
400	DCS.4012	Invalid capacity parameter in the request.	Invalid capacity parameter in the request.	Check whether the request parameters are valid.
400	DCS.4013	Invalid vpc_id in the request.	Invalid **vpc_id** in the request.	Check whether the request parameters are valid.
400	DCS.4014	Invalid security_group_id in the request.	Invalid **security_group_id** in the request.	Check whether the request parameters are valid.
400	DCS.4016	Invalid subnet_id in the request.	Invalid **subnet_id** in the request.	Check whether the request parameters are valid.
400	DCS.4017	This DCS instance job task is still running.	A background task associated with this instance is running.	Try again later.

Status Code	Error Code	Error Message	Description	Solution
400	DCS.4018	This subnet must exist in the VPC.	This subnet must exist in the VPC.	Check whether the request parameters are valid.
400	DCS.4019	The password does not meet complexity requirements.	The password does not meet complexity requirements.	Check whether the request parameters are valid.
400	DCS.4020	DHCP must be enabled for this subnet.	DHCP must be enabled for this subnet.	Check whether DHCP has been enabled.
400	DCS.4021	The isAutoRenew parameter in the request must be either 0 or 1.	Invalid **isAutoRenew** in the request. It must be either **0** or **1**.	Check whether the request parameters are valid.
400	DCS.4022	Engine does not match the product id.	The cache engine does not match the product ID.	Check whether the request parameters are valid.
400	DCS.4026	This operation is not allowed when the DCS instance is in the current state.	This operation is not allowed when the DCS instance is in the current state.	Try again later or contact technical support.
400	DCS.4027	This operation is not supported on this node.	The specified operation is not supported on the current node.	Try again later or contact technical support.
400	DCS.4035	DCS instance quota of the tenant is insufficient.	DCS instance quota of the tenant is insufficient.	Contact technical support.
400	DCS.4036	Memory quota of the tenant is insufficient.	Memory quota of the tenant is insufficient.	Contact technical support.

Status Code	Error Code	Error Message	Description	Solution
400	DCS.4037	The instanceParams parameter in the request contains invalid characters or is not in JSON format.	The **instanceParams** parameter in the request contains invalid characters or is not in JSON format.	Check whether the request parameters are valid.
400	DCS.4038	The periodNum parameter in the request must be an integer.	The **periodNum** parameter in the request must be an integer.	Check whether the request parameters are valid.
400	DCS.4039	The quota limit has been reached.	The quota limit has been reached.	Check whether the request parameters are valid.
400	DCS.4042	This AZ does not exist.	This AZ does not exist.	Check whether the request parameters are valid.
400	DCS.4045	This DCS instance is already unfrozen.	The instance is not frozen and cannot be unfrozen.	Try again later or contact technical support.
400	DCS.4046	This security group does not exist.	The specified security group does not exist.	Check whether the request parameters are valid.
400	DCS.4047	The periodType parameter in the request must be either 2 or 3.	The **periodType** parameter in the request must be either **2** or **3**.	Check whether the request parameters are valid.
400	DCS.4048	The security group must have both outbound and inbound rules with protocols set to ANY.	The security group must have both outbound and inbound rules with protocols set to **ANY**.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
400	DCS.4049	The instance status is not running.	The instance status is not running.	Contact technical support.
400	DCS.4053	the upgrade instance version equals to current version.	The **targetVersion** parameter in the request cannot be the same as the source version.	Check whether the request parameters are valid.
400	DCS.4054	the selected available zone quota not enough.	The DCS resources in the selected AZ have been sold out.	Select another AZ or contact technical support.
400	DCS.4060	This DCS instance name already exists.	This instance name already exists.	Check whether the request parameters are valid.
400	DCS.4061	Invalid instance ID format.	Invalid instance ID format.	Check whether the request parameters are valid.
400	DCS.4062	Invalid {0} parameter in the request.	Invalid parameter **{0}** in the request.	Check whether the request parameters are valid.
400	DCS.4063	Invalid {0} parameter in the request.	Invalid parameter **{0}** in the request.	Check whether the request parameters are valid.
400	DCS.4064	The action parameter in the request must be start, stop, or restart.	The **action** parameter in the request must be **start**, **stop**, or **restart**.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
400	DCS.4065	The instances parameter in the request cannot be a null value or left unspecified.	The **instances** parameter in the request cannot be a null value or left unspecified.	Check whether the request parameters are valid.
400	DCS.4066	Invalid value of the configure parameter {0}.	Invalid configuration parameter **{0}**.	Check whether the request parameters are valid.
400	DCS.4067	The available_zones parameter in the request must an array that contains only one AZ ID.	The **available_zones** parameter in the request must be an array that contains only one AZ ID.	Check whether the request parameters are valid.
400	DCS.4068	This VPC does not exist.	This VPC does not exist.	Check whether the request parameters are valid.
400	DCS.4070	Invalid task ID format.	Invalid task ID format.	Check whether the request parameters are valid.
400	DCS.4072	Invalid saveDays instance backup policy parameter in the request.	The value of the instance backup parameter **saveDays** in the request must be in the range from 1 to 7.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
400	DCS.4073	Invalid backupType instance backup policy parameter in the request.	The value of the instance backup parameter **backupType** in the request must be either auto or manual.	Check whether the request parameters are valid.
400	DCS.4074	Invalid periodType instance backup policy parameter in the request.	The value of the instance backup parameter **periodType** in the request must be weekly.	Check whether the request parameters are valid.
400	DCS.4075	Invalid backupAt instance backup policy parameter in the request.	The value of the instance backup parameter **backupAt** in the request cannot be null or undefined.	Check whether the request parameters are valid.
400	DCS.4076	Invalid beginAt instance backup policy parameter in the request.	The value of the instance backup parameter **beginAt** in the request must be in the 00:00–00:00 format.	Check whether the request parameters are valid.
400	DCS.4080	Instance password verify failed.	Invalid instance password.	Check whether the request parameters are valid.
400	DCS.4086	only master standby instance is support this action	This operation is allowed only for master/standby DCS instances.	Operation not allowed.

Status Code	Error Code	Error Message	Description	Solution
400	DCS.4087	the backup record status is err when restore this instance	The restore operation is allowed only when the backup task is in the **Succeeded** state.	Try again later or contact technical support.
400	DCS.4094	the system is not support dcs job.	The system does not support the background task function.	Operation not allowed.
400	DCS.4095	the system is not support backup and restore.	The system does not support the backup and restoration function.	Operation not allowed.
400	DCS.4096	the instance is backuping.	Backing up the DCS instance... Please try again later.	Try again later or contact technical support.
400	DCS.4097	the instance is restoring.	Restoring the DCS instance... Please try again later.	Try again later or contact technical support.
400	DCS.4098	The value of the remark parameter must be 0 to 128 characters in length.	The value of the **remark** parameter cannot exceed 128 characters long.	Check whether the request parameters are valid.
400	DCS.4099	DCS instances in the Creating, Starting, Stopping, or Restarting state cannot be deleted.	DCS instances in the **Creating**, **Restarting**, or **Deleting** state cannot be deleted.	Try again later.

Status Code	Error Code	Error Message	Description	Solution
400	DCS.4100	The number of instance IDs in an instances array cannot exceed 50.	The number of instance IDs in an instances array cannot exceed 50.	Check whether the request parameters are valid.
400	DCS.4102	The system is not support resize.	Scale-up is not supported.	Operation not allowed.
400	DCS.4103	The system is not support resize.	The capacity to which the DCS instance is scaled up must be greater than the original capacity.	Check whether the request parameters are valid.
400	DCS.4104	The DCS instance is recovering from an internal fault. Please try again later or contact customer service.	The DCS instance is recovering from an internal fault. Please try again later or contact the administrator.	Please try again later or contact the administrator.
400	DCS.4105	The value of reserved-memory cannot be greater than the free memory size of this DCS instance.	The value of **reserved-memory** cannot be greater than the free memory size of this DCS instance.	Check whether the request parameters are valid.
400	DCS.4106	The value of maintain time illegal.	Invalid maintenance time window.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
400	DCS.4108	The Instance exists for processing sacle up order. Please try again later.	Scaling up the DCS instance... Please try again later.	Try again later or contact technical support.
400	DCS.4111	the instance is restarting.	Restarting the DCS instance... Please try again later.	Try again later or contact technical support.
400	DCS.4113	the instance is extending.	Scaling up the DCS instance... Please try again later.	Try again later or contact technical support.
400	DCS.4114	the instance is configuring.	Modifying instance configuration. .. Please try again later.	Try again later or contact technical support.
400	DCS.4115	the instance is changing the password.	Changing instance password... Please try again later.	Try again later or contact technical support.
400	DCS.4116	the instance is upgrading.	Upgrading the DCS instance... Please try again later.	Try again later or contact technical support.
400	DCS.4117	the instance is rollbacking the version.	Rolling back the DCS instance... Please try again later.	Try again later or contact technical support.
400	DCS.4118	the instance is creating.	Creating the DCS instance... Please try again later.	Try again later or contact technical support.

Status Code	Error Code	Error Message	Description	Solution
400	DCS.4119	Query Bill Sample failed	This DCS instance does not exist.	Check whether the request parameters are valid.
400	DCS.4120	the instance is Freezing.	Freezing the DCS instance... Please try again later.	Try again later or contact technical support.
400	DCS.4800	Invalid {0} in the request.	Invalid parameter **{0}** in the request.	Check whether the request parameters are valid.
400	DCS.4843	The no_password_access parameter is missing or its value is invalid.	Parameter **no_password_access** is missing or invalid.	Check whether the request parameters are valid.
400	DCS.4844	The access_user parameter is missing or its value is invalid.	Parameter **access_user** is missing or invalid.	Check whether the request parameters are valid.
400	DCS.4845	The password parameter is missing or its value is invalid.	Parameter **password** is missing or invalid.	Check whether the request parameters are valid.
400	DCS.4849	The request parameter new_password should not exist.	Request parameter **new_password** should not exist.	Check whether the request parameters are valid.
400	DCS.4850	This operation is not supported when Password-Free Access is enabled for the instance.	This operation is not supported when password-free access is enabled for the instance.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
400	DCS.4875	Create replication number exceed max number limit.	The maximum number of replicas that can be created has been reached.	Check whether the request parameters are valid.
400	DCS.4879	r/w instance have only one repl can not remove ip from dns	The IP address cannot be removed because a master/ standby instance must have at least one replica IP address.	Check whether the request parameters are valid.
400	DCS.4911	The network ip insufficient.	The subnet does not have sufficient IP addresses.	Check the quantity of IP addresses in the subnet. Release IP addresses that are no longer used or use another subnet that has sufficient IP addresses.
400	DCS.4918	Instance bigkey analyze is running.	The big key analysis is in progress.	Try again later.
400	DCS.4919	Does not support bigkey analyze.	Big key analysis is not supported.	Operation not allowed.
400	DCS.4930	The request param node_list is invalid	Invalid **node_list** parameter in the parameter.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
400	DCS.4931	Node is not replica, can't delete.	The replica cannot be deleted because it is not a read-only replica.	Check whether the request parameters are valid.
400	DCS.4935	Only one slave replication has dns ip, can not delete	The replica cannot be deleted because at least one DNS IP address must be retained.	Check whether the request parameters are valid.
400	DCS.4936	The master node cannot be deleted	The master node cannot be deleted.	Check whether the request parameters are valid.
400	DCS.4937	Only has one slave node,can not delete	Retain at least one replica in addition to the master.	Check whether the request parameters are valid.
400	DCS.4939	The param slave_priority_weight is invalid.	Invalid **slave_priority_weight** parameter in the parameter.	Check whether the request parameters are valid.
400	DCS.4941	The hotkey id does not exist.	The hot key analysis task ID does not exist.	Check whether the request parameters are valid.
400	DCS.4942	The bigkey id does not exist.	The big key analysis task ID does not exist.	Check whether the request parameters are valid.
401	111401001	Invalid token.	Invalid token.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
401	111401002	Token expired.	The token has expired.	Check whether the request parameters are valid.
401	111401003	No token in the request.	The token is missing.	Check whether the request parameters are valid.
401	111401004	Project ID does not match the token.	Project ID does not match the token.	Check whether the request parameters are valid.
401	DCS.1001	Invalid token.	Invalid token.	Check whether the request parameters are valid.
401	DCS.1002	Token expired.	The token has expired.	Check whether the request parameters are valid.
401	DCS.1003	No token in the request.	The token is missing.	Check whether the request parameters are valid.
401	DCS.1004	Project ID does not match the token.	Project ID does not match the token.	Check whether the request parameters are valid.
403	111403002	This tenant has read permission only and cannot perform this operation.	This tenant has read permissions only and cannot perform this operation.	Check whether the request parameters are valid.
403	111403003	This role does not have the permission to perform this operation.	This role does not have the permissions to perform this operation.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
403	DCS.2007	Policy does not allow {} to be performed.	Insufficient permissions.	Check whether the account has the required operation permissions.
403	DCS.3002	This tenant has read permission only and cannot perform this operation.	This tenant has read permissions only and cannot perform this operation.	Check whether the request parameters are valid.
403	DCS.3003	This role does not have the permission to perform this operation.	This role does not have the permissions to perform this operation.	Check whether the request parameters are valid.
404	111404001	The requested URL does not exist.	The requested URL does not exist.	Check whether the request parameters are valid.
404	111404022	This DCS instance does not exist.	This DCS instance does not exist.	Check whether the request parameters are valid.
404	111404023	This DCS order does not exist.	The order does not exist.	Check whether the request parameters are valid.
404	DCS.4001	The requested URL does not exist.	The requested URL does not exist.	Check whether the request parameters are valid.
404	DCS.4022	This DCS instance does not exist.	This DCS instance does not exist.	Check whether the request parameters are valid.
404	DCS.4023	This DCS order does not exist.	The order does not exist.	Check whether the request parameters are valid.

Status Code	Error Code	Error Message	Description	Solution
405	111405001	This request method is not allowed.	The request method is not allowed.	Check whether the request parameters are valid.
405	DCS.5001	This request method is not allowed.	The request method is not allowed.	Check whether the request parameters are valid.
500	111400069	Another user is modifying configuration parameters of the DCS instance. Please try again later.	Another user is modifying configuration parameters of the DCS instance. Try again later.	Try again later.
500	111400101	Delete instance backup file failed.	Failed to delete the instance backup files.	Contact technical support.
500	111400842	job execution status failed.	Failed to run the task.	Contact technical support.
500	111500000	Internal service error.	Internal service error.	Contact technical support.
500	111500006	Internal service error.	Internal service error.	Contact technical support.
500	111500017	Internal service error.	Internal service error.	Contact technical support.
500	111500020	vm add port fail	A port fails to be added for the VM.	Contact technical support.
500	111500024	Internal service error.	Internal service error.	Contact technical support.
500	111500031	create instance fail	Failed to create the DCS instance.	Contact technical support.
500	111500032	Internal service error.	Internal service error.	Contact technical support.
500	111500037	query order info fail	Failed to query the order details.	Try again later or contact technical support.

Status Code	Error Code	Error Message	Description	Solution
500	111500041	No resource tenant available.	No resource tenant available.	Try again later or contact technical support.
500	111500044	update resource status fail	Failed to update the status of the DCS instance.	Try again later or contact technical support.
500	111500053	Internal service error.	Internal service error.	Contact technical support.
500	111500054	Internal service error.	Internal service error.	Contact technical support.
500	111500070	Internal service error.	Internal service error.	Contact technical support.
500	111500071	Internal service error.	Internal service error.	Contact technical support.
500	111500077	Internal service error.	Internal service error.	Contact technical support.
500	111500078	Internal service error.	Internal service error.	Contact technical support.
500	111500079	Internal service error.	Internal service error.	Contact technical support.
500	111500082	Internal service error.	Internal service error.	Contact technical support.
500	111500083	Internal service error.	Internal service error.	Contact technical support.
500	111500085	Internal service error.	Internal service error.	Contact technical support.
500	111500090	Internal service error.	Internal service error.	Contact technical support.
500	111500091	Internal service error.	Internal service error.	Contact technical support.
500	111500092	Internal service error.	Internal service error.	Contact technical support.
500	111500095	Internal service error.	Internal service error.	Contact technical support.
500	111500104	Internal service error.	Internal service error.	Contact technical support.

Status Code	Error Code	Error Message	Description	Solution
500	DCS. 5094	Master standby swap failed.	Master/ Standby switchover failed.	Contact technical support.
500	DCS.4069	Another user is modifying configuration parameters of the DCS instance. Please try again later.	Another user is modifying configuration parameters of the DCS instance. Try again later.	Try again later.
500	DCS.4101	Delete instance backup file failed.	Failed to delete the instance backup files.	Contact technical support.
500	DCS.4842	job execution status failed.	Failed to run the task.	Contact technical support.
500	DCS.5000	Internal service error.	Internal service error.	Contact technical support.
500	DCS.5006	Job submit failed	Failed to submit the task.	Contact technical support.
500	DCS.5006	Submit job failed.	Failed to submit the task.	Contact technical support.
500	DCS.5017	Failed to save instance information.	Failed to save the instance information.	Contact technical support.
500	DCS.5020	vm add port fail	A port fails to be added for the VM.	Contact technical support.
500	DCS.5024	Query instance failed.	The instance fails to be queried.	Contact technical support.
500	DCS.5031	create instance fail	Failed to create the DCS instance.	Contact technical support.
500	DCS.5032	Failed to create order.	Failed to create the order number.	Contact technical support.

Status Code	Error Code	Error Message	Description	Solution
500	DCS.5037	query order info fail	Failed to query the order details.	Contact technical support.
500	DCS.5041	No resource tenant available.	No resource tenant available.	Contact technical support.
500	DCS.5044	update resource status fail	Failed to update the status of the DCS instance.	Contact technical support.
500	DCS.5053	Instance node not found.	The specified instance node is not found.	Contact technical support.
500	DCS.5054	Failed to generate password.	The password fails to be generated.	Contact technical support.
500	DCS.5070	Internal service error.	Internal service error.	Contact technical support.
500	DCS.5071	Failed to create instance backup strategy.	The instance backup policy fails to be created.	Contact technical support.
500	DCS.5077	Query instance backup strategy failed	The instance backup policy fails to be queried.	Contact technical support.
500	DCS.5077	Query instance failed.	The instance fails to be queried.	Contact technical support.
500	DCS.5078	Query backup record failed.	The backup record fails to be queried.	Contact technical support.
500	DCS.5079	Query restore record failed.	The restoration record fails to be queried.	Contact technical support.
500	DCS.5081	The resource tenant does not exist.	The resource tenant does not exist.	Contact technical support.

Status Code	Error Code	Error Message	Description	Solution
500	DCS.5082	Failed to register resource tenant backup user.	The resource tenant backup user fails to be registered.	Contact technical support.
500	DCS.5083	Failed to save backup user.	The backup user fails to be saved.	Contact technical support.
500	DCS.5085	Failed to update backup strategy.	The backup policy fails to be updated.	Contact technical support.
500	DCS.5090	Failed to save backup information.	The backup information fails to be saved.	Contact technical support.
500	DCS.5091	Script execution failed.	Failed to execute the script.	Contact technical support.
500	DCS.5092	Failed to save and restore data.	The restoration data fails to be saved.	Contact technical support.
500	DCS.5095	The script execution failed and needs to be retried.	The script fails to be executed and needs to be executed again.	Contact technical support.
500	DCS.5104	Failed to modify order.	Failed to modify the order.	Contact technical support.

9.3 Obtaining a Project ID

Obtaining a Project ID by Calling an API

The API for obtaining a project ID is **GET https://*{Endpoint}*/v3/projects**, where *{Endpoint}* indicates the IAM endpoint obtained from **Regions and Endpoints**. For details on API calling authentication, see **Authentication**.

The following is an example response. The value of **id** in the **projects** section is the project ID.

```
{
    "projects": [
        {
            "domain_id": "65382450e8f64ac0870cd180d14e684b",
            "is_domain": false,
            "parent_id": "65382450e8f64ac0870cd180d14e684b",
            "name": "XXXXX",
            "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 on the Console

A project ID is required for some URLs when an API is called. You can obtain a project ID on the console.

The following procedure describes how to obtain a project ID:

Step 1 Sign up and log in to the management console.

Step 2 Hover over the username and choose **Basic Information** from the drop-down list.

Step 3 Click **Manage** next to **Security Credentials**.

On the **My Credentials** page, view project IDs in the project list.

If there are multiple projects in one region, expand **Region** and view sub-project IDs in the **Project ID** column.

----End

9.4 Obtaining Account Name and Account ID

The account name and account ID is required for some URLs when an API is called. To obtain the account name and account ID, perform the following operations:

1. Log in to the management console.
2. Click the username and select **Basic Information** from the drop-down list.
3. Click **Manage** next to **Security Credentials**.
   On the **My Credentials** page, view the **Account Name** and **Account ID**.

9.5 DCS Instance Statuses

Table 9-2 DCS instance statuses

State	Description
CREATING	Creating is the status before the Running state.
CREATEFAILED	The DCS instance failed to be created.
RUNNING	The instance is running properly. Only instances in the Running state can provide in-memory cache service.
ERROR	The instance is not running properly.
RESTARTING	The instance is being restarted.
EXTENDING	The instance is being scaled up.
RESTORING	The instance data is being restored.

A Change History

Table A-1 Change history

Released On	Description
2020-09-30	This issue is the first official release.